PB81-217077

Water Resources Data for Ohio, Water Year 1980
Volume 2. St. Lawrence River Basin

(U.S.) Geological Survey
Columbus, OH

Apr 81

U.S. Department of Commerce
National Technical Information Service
NTIS

PB81-217077

Water Resources Data for Ohio

Volume 2. St. Lawrence River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-80-2

WATER YEAR 1980

Prepared in cooperation with the State of Ohio
and with other agencies

PRODUCT OF:
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

50272-101

REPORT DOCUMENTATION PAGE

1. REPORT NO. USGS/WRD/HD-81/038

2.

3. Recipient's Accession No.

4. Title and Subtitle

Water Resources Data for Ohio, 1980
Volume 2. St. Lawrence River Basin

5. Report Date April 1981

6.

7. Author(s)

8. Performing Organization Rept. No. USGS-WRD-OH-80-2

9. Performing Organization Name and Address

U.S. Geological Survey, Water Resources Division
975 West Third Avenue
Columbus, Ohio 43212

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.

(C)

(G)

12. Sponsoring Organization Name and Address

U.S. Geological Survey, Water Resources Division
975 West Third Avenue
Columbus, Ohio 43212

13. Type of Report & Period Covered Annual - Oct. 1, 1979 to Sept. 30, 1980

14.

15. Supplementary Notes

Prepared in cooperation with the State of Ohio and with other agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1980 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage and contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This report in two volumes and one appendix contains records for water discharge at 169 gaging stations; stage and contents at 39 lakes and reservoirs; water quality at 57 gaging stations and 83 wells; and water levels at 183 observation wells. Also included are data from 84 crest-stage partial-record stations; 91 low-flow partial-record stations, and 537 coal hydrology synoptic sites. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.

17. Document Analysis a. Descriptors

*Ohio, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rates, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperature, Sampling sites, Water levels, Water analyses, Streamflow, Water Wells, Benthic fauna.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement No restriction on distribution. This report may be purchased from: National *Technical Information Service, Springfield, VA 22161*

19. Security Class (This Report)

20. Security Class (This Page)

21. No. of Pages 268

22. Price

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

ARTMENT OF THE INTERIOR
March 3, 1849

Water Resources Data for Ohio

Volume 2. St. Lawrence River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-80-2

WATER YEAR 1980

Prepared in cooperation with the State of Ohio
and with other agencies

I

UNITED STATES DEPARTMENT OF THE INTERIOR
JAMES G. WATT, Secretary

GEOLOGICAL SURVEY
Doyle G. Frederick, Acting Director

For information on the water program in Ohio write to
District Chief, Water Resources Division
U.S. Geological Survey
975 West Third Avenue
Columbus, Ohio 43212

1981

PREFACE

This report was prepared by personnel of the Ohio district of the Water Resources Division of the U.S. Geological Survey under the supervision of S.M. Hindall, District Chief, and J.E. Biesecker, Regional Hydrologist, Northeastern Region. It was done in cooperation with the State of Ohio and with other agencies.

This report is one of a series issued State by State under the general direction of Philip Cohen, Chief Hydrologist, U.S. Geological Survey, and Robert J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for Ohio are in two volumes and one appendix as follows:

Volume 1. Ohio River basin
Volume 2. St. Lawrence River basin
Appendix A. Coal areas

CONTENTS

Page

- Preface ... III
- List of gaging stations, in downstream order, for which records are published ... VI
- List of ground water stations for which records are published ... VII
- Introduction ... 1
- Cooperation ... 1
- Hydrologic conditions ... 2
- Definition of terms ... 2
- Downstream order and station number ... 7
- Numbering system for wells and miscellaneous sites ... 7
- Special networks and programs ... 8
- Explanation of stage and water-discharge records ... 8
  - Collection and computation of data ... 8
  - Accuracy of field data and computed results ... 10
  - Other data available ... 10
  - Records of discharge collected by agencies other than the Geological Survey ... 10
- Explanation of water-quality records ... 10
  - Collection and examination of data ... 10
  - Water analysis ... 11
  - Water temperature ... 11
  - Sediment ... 11
- Explanation of ground-water level records ... 12
  - Collection of the data ... 12
- Publications of techniques of water-resources investigations ... 13
- Station records ... 18
- Partial-record stations and miscellaneous sites ... 180
  - Low-flow partial-record stations ... 180
  - Crest-stage partial-record stations ... 193
  - Sediment partial-record stations ... 196
- Ground-water records ... 197
- Ground-water records for Geauga County project ... 217
- Chemical characteristics and biological indices of selected lakes ... 250
- Index ... 256
- Factors for converting inch-pound units to International System units (SI) .. Inside back cover

ILLUSTRATIONS

Page

Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude) .. 7
2. Map showing location of data collection stations ... 14

GAGING STAITONS, IN DOWNSTREAM ORDER FOR WHICH RECORDS ARE PUBLISHED

(Letter after station name designates type of data: (b) biological, (c) chemical, (d) discharge, (e) contents and (or) elevation, (HBM) hydrologic bench mark, (m) microbiological, (NASQAN) National stream-quality accounting network, (r) radiochemical, (s) sediment, (t) temperature.)

ST. LAWRENCE RIVER BASIN

Page

STREAMS TRIBUTARY TO LAKE ERIE

Ottawa River at Toledo University, Toledo (d) 18
Maumee River at Antwerp (d) 19
  Bean Creek (head of Tiffin River) at Powers (d) 20
  Tiffin River at Stryker (d) 21
  Auglaize River near Ft. Jennings (d) 22
    Ottawa River at Allentown (dct) 23
    Blanchard River near Findlay (dct) 29
  Auglaize River near Defiance (d) 35
Maumee River near Defiance (d) 36
Maumee River near Waterville (dct) 37
Maumee River at Waterville (dcbmts) ...(NASQAN) 46
Portage River at Woodville (d) 52
Portage River at railroad bridge at Woodville (dct) 53
Sandusky River near Bucyrus (d) 60
  Broken Sword Creek at Nevada (d) 61
Sandusky River near Upper Sandusky (d) 62
  Tymochtee Creek at Crawford (d) 63
Sandusky River near Mexico (d) 64
  Honey Creek near New Washington (d) 65
  Honey Creek at Melmore (d) 66
  Wolf Creek at Bettsville (d) 67
    East Branch Wolf Creek near Bettsville (d) 68
Sandusky River near Fremont (dcmbts) ...(NASQAN) 69
Sandusky River below Fremont (dct) 76
Huron River at Milan (dct) 83
Vermilion River near Vermilion (dct) 93
  West Branch Black River above Lake Street at Elyria (dc) 103
Black River at Elyria (ds) 104
Black River below Elyria (dct) 107
  West Branch Rocky River near Valley City (d) 115
Rocky River near Berea (ds) 116
Rocky River above sewage treatment plant near Lakewood (ds) 120
Cuyahoga River at Hiram Rapids (d) 121
Cuyahoga River at Old Portage (dcts) 122
  Tinkers Creek at Bedford (d) 130
  Ohio Canal at Independence (d) 131
Cuyahoga River at Independence (dcbmts) ...(NASQAN) 132
  Big Creek at Cleveland (d) 144
Cuyahoga River at lower Harvard Bridge in Cleveland (dc) 145
Cuyahoga River at West Third Street Bridge in Cleveland (ct) 146
Euclid Creek near Euclid (dc) 151
Chagrin River at Willoughby (dsc) 153
Grand River near Painesville (ds) 158
Grand River at Painesville (dcmbts) ...(NASQAN) 162
Ashtabula River at Ashtabula (dc) 174
Conneaut Creek at Conneaut (dc) 177

GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

(Letter after station location designates type of data: (c) chemical, (l) water level.)

Well number	Local number	Location	Page
		CRAWFORD COUNTY	
404838082563100	CR-1	Bucyrus (l)	197
		GEAUGA COUNTY	
412518081221500	GE-3A	Southeast of Chagrin Falls (l)	198
		HANCOCK COUNTY	
405332083421700	HA-15	Southeast of Jenera (l)	199
		HARDIN COUNTY	
404648083412600	HN-2A	Southeast of Dola (l)	200
		HENRY COUNTY	
412123083574000	HY-2	Southwest of McClure (l)	201
		LORAIN COUNTY	
411545082072400	LN-1	North of Lagrange (l)	202
		LUCAS COUNTY	
413704083362200	LU-1	Toledo (l)	203
		MEDINA COUNTY	
410142082005900	MD-1	Lodi (l)	204
		OTTAWA COUNTY	
413644083201400	O-1	Williston (l)	205
		PORTAGE COUNTY	
410920081192000	PO-6	East of Kent (l)	206
		PUTNAM COUNTY	
405505084032900	PU-1	Columbus Grove (l)	207
		RICHLAND COUNTY	
405753082360800	R-3	Shiloh (l)	208
		SANDUSKY COUNTY	
411914083045300	S-3	Fremont (l)	209
412703083213600	S-2	Woodville (l)	210
		SENECA COUNTY	
410802083093900	SE-2	Tiffin (l)	211
		SUMMIT COUNTY	
410330081292000	SU-6	Akron (l)	212
410846081271600	SU-7	Cuyahoga Falls (l)	213
		VAN WERT COUNTY	
405215084335400	VW-1	Van Wert (l)	214
		WILLIAMS COUNTY	
413108084415300	WM-12	East of Blakeslee (l)	215
		WYANDOT COUNTY	
405009083172600	WY-1	Upper Sandusky (l)	216

WATER RESOURCES DATA FOR OHIO, 1980

INTRODUCTION

Water resources data for the 1980 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, in two volumes and one appendix, contains records for water discharge at 169 gaging stations; stage and contents for 19 lakes and reservoirs; water quality for 57 gaging stations, and 81 wells; and water levels for 183 observation wells. Also included are 44 crest-stage, 91 low-flow, and 14 water-quality partial-record stations and 517 coal hydrology synoptic sites. Locations of these sites are shown on figures 2a, 2b, 2c, and 2d. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Ohio.

Records of discharge and stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia, 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published in official Survey reports on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report OH-80-2." These water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia, 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (614) 469-5553.

COOPERATION

The U.S. Geological Survey and organizations of the State of Ohio have had cooperative agreements for the systematic collection of streamflow records since 1898, for ground-water levels since 1936, and for water-quality records since 1946. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Ohio Department of Natural Resources, R.W. Teater, director, through Division of Water, J.H. Cousins, chief, and through Division of Reclamation, C.E. Call, chief.

Ohio Environmental Protection Agency, J.E. McAvoy, director, through Water-Quality Planning and Assessment, S. Amrogy, chief, and Office of Planning Coordinator, C. Wilhelm, chief.

Ohio Department of Transportation, D.L. Weir, director, through Division of Highway, L.G. Talbert, engineer for research and development, and D. Finley, engineer of project planning.

Miami Conservancy District, L.D. Coy, general manager and secretary.

City of Columbus Department of Public Service, R.C. Parkinson, director, through Division of Water, Jack Holt, superintendent.

City of Canton Water Department, J.D. Williams, superintendent.

Geauga County, R. M. Wall, sanitary engineer.

Northeast Ohio Areawide Coordinating Agency, F.E.J. Pizzedaz, director, through R. Long, water quality program manager.

Cuyahoga County, P.A. Alsenas, chief, Planning Branch.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army in collecting records for 140 hydrologic-data stations in this report, and by the Environmental Protection Agency for 18 stations.

Organizations that supplied data are acknowledged in station descriptions.

HYDROLOGIC CONDITIONS

At the start of the 1980 water year, streamflow was excessive throughout most of the State. The only exception was northwestern Ohio, where it was normal. The month of November was above normal with a marked increase during the last week due to heavy rains. December streamflow was near normal for the first three weeks, but heavy rain the last week of the month caused all but eastern Ohio to be excessive for the month.

Streamflow for January and February was normal throughout the State except in eastern Ohio where February streamflow was slightly deficient.

March streamflow was slightly above normal throughout most of the State except western Ohio where it was excessive due to excessive rain the last half of the month.

April streamflow remained excessive in northwest Ohio while the remainder of the State was normal. Streamflow for May was deficient throughout the State for the first 10 days. Heavy rains during the last half of the month improved streamflow resulting in normal streamflow for the month.

Streamflow was excessive during June and July. Heavy rain the last part of June caused heavy flooding in the westcentral portion of the State.

Streamflow for August and September remained excessive, sustained by above normal precipitation. Heavy thunderstorms August 10 and 11, caused major flooding in eastcentral Ohio.

Streamflow was excessive throughout the State for most of the 1980 water year but no general flooding occurred.

Ground-water levels were very favorable throughout the 1980 water year. Generally, water levels were high at the beginning of the year, but did not rise as much as might have been expected. However, the declines during the depletion period were not as great due to above normal precipitation during the last 6 months of the year. Ground-water levels made substantial gains during the 1980 water year and held a very favorable position at the year end.

Source: Ohio Department of Natural Resources Monthly Water Inventory Report for Ohio and U.S. Geological Survey Water Resources Data Reports.

DEFINITION OF TERMS

Terms related to streamflow, water quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting inch-pound units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer, tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

Bottom material: See Bed material and anthropogenic material.

Cells/volume refers to the number of cells of any organism which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll *a* and *b* are the two most common pigments in plants.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic foot per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic feet per second per day ((ft³/s)/d) is the volume of water represented by flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

Cubic foot per second (FT³/s, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved: That material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution area, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface stream and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Methylene blue active substance (MBAS) is a measure of apparent detergents. This determination depends on the formation of a blue color when methylene blue dye reacts with synthetic detergent compounds.

Micrograms per gram (UG/G, ug/g) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Micrograms per kilogram (UG/KG, ug/kg) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (kilogram) of bottom material.

Micrograms per liter (UG/L, ug/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represent the mass of solute per unit volume (liter) of water. Concentration of suspended sediment also is expressed in mg/L, and is based on the mass of sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle-size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay..........	0.00024 - 0.004	Sedimentation.
Silt..........	0.004 - 0.062	Sedimentation.
Sand..........	0.062 - 2.0	Sedimentation or sieve.
Gravel........	2.0 - 64.0	Sieve.

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, number, mass or volume.

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC,pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Runoff in inches (IN., in.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Suspended-sediment load is the quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published after 1975.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 04041000, which appears just to the left of the station name, includes the 2-digit part number "04" plus the 6-digit downstream order number "041000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1.

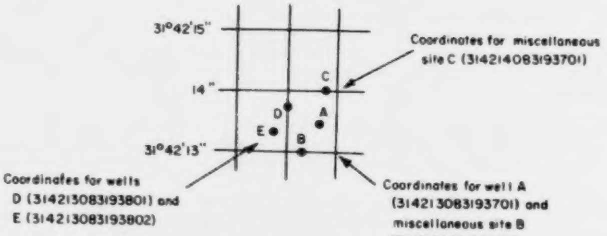
31°42'15"
Coordinates for miscellaneous site C (314214083193701)
C
14"
D
A
E
B
31°42'13"
Coordinates for wells D (314213083193801) and E (314213083193802)
Coordinates for well A (314213083193701) and miscellaneous site B (314213083193702)

Figure 1.--System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), step-back water techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage height and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations, the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some northern stream-gaging stations, the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs, a monthly summary table of stage and contents is given. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964, to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 2.

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "EXTREMES" are given first, the extremes for period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with "EXTREMES FOR THE CURRENT YEAR"; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion. In the yearly summary, below the monthly summary the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made or water-quality samples are taken to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements and chemical analyses are also given in special tables following the tables of partial-record stations.

For gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents.

Accuracy of field data and computed results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good", within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, gage-height records, and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey were collected during water year 1978 at many sites in Ohio by the National Weather Service, NOAA, U.S. Department of Commerce, by the Corps of Engineers, U.S. Army and by other agencies. The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, Va. 22092, maintains an index of such sites. Information on records available at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface water samples for analyses usually are collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

For ground-water records, descriptive statements are given; the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small daily temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum and minimum temperatures for each day are published.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross sections.

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of the quantities of suspended sediment, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 2.

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well; National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between sucessive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens,Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

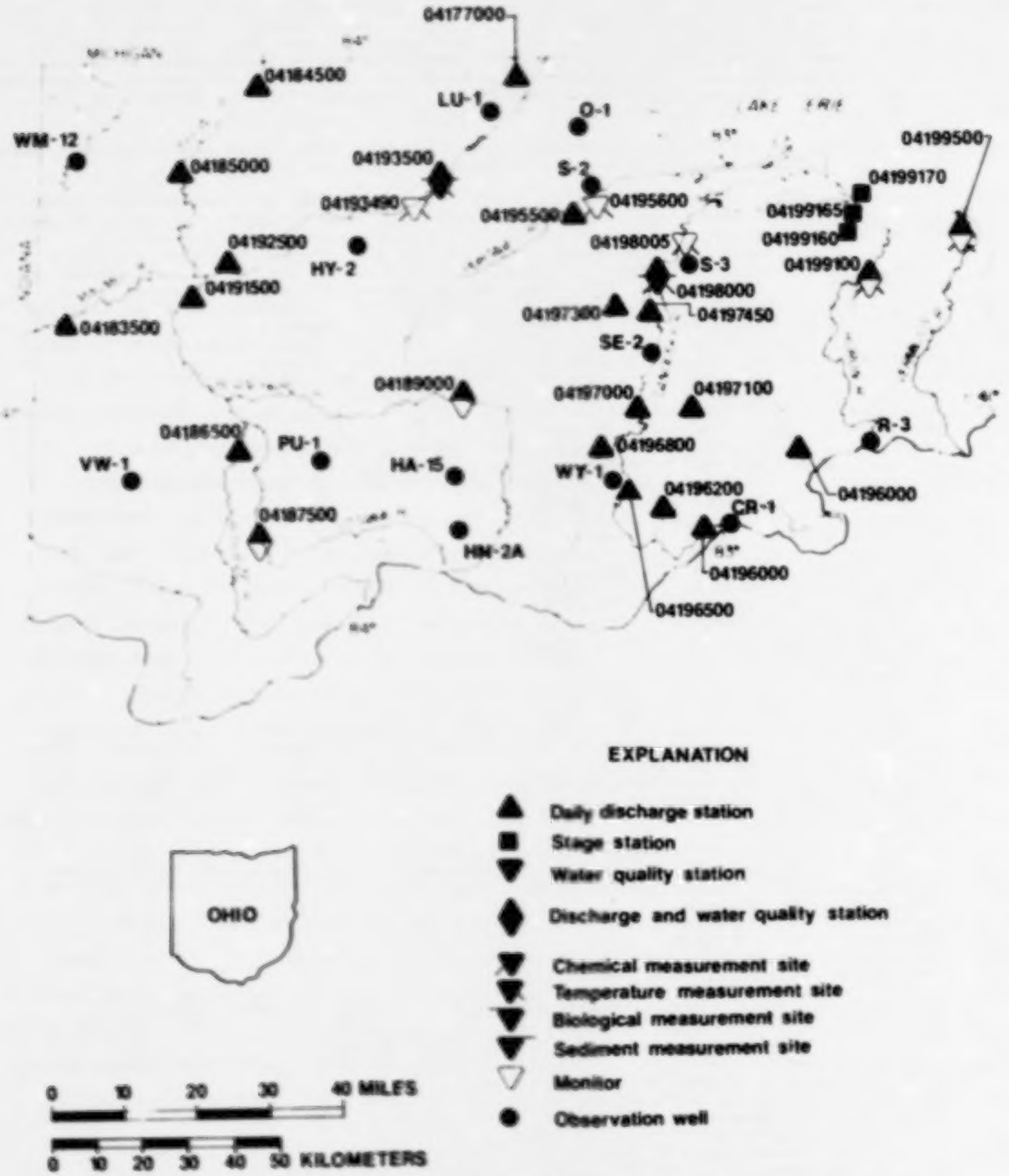
04177000
04184500
LU-1
O-1
LAKE ERIE
WM-12
04185000
04193500
S-2
04199500
04199170
04193490
04195500
04195600
04199165
04199160
04198005
S-3
04199100
04192500
HY-2
04191500
04198000
04197300
04197450
04183500
SE-2
04189000
04197000
04197100
R-3
04186500
PU-1
04196800
VW-1
HA-15
WY-1
04196200
04196000
CR-1
04187500
HM-2A
04196000
04196500
OHIO
EXPLANATION
Daily discharge station
Stage station
Water quality station
Discharge and water quality station
Chemical measurement site
Temperature measurement site
Biological measurement site
Sediment measurement site
Monitor
Observation well
0 10 20 30 40 MILES
0 10 20 30 40 50 KILOMETERS

Figure 2a.--Location of data-collection stations excluding crest-stage and low-flow partial record sites.

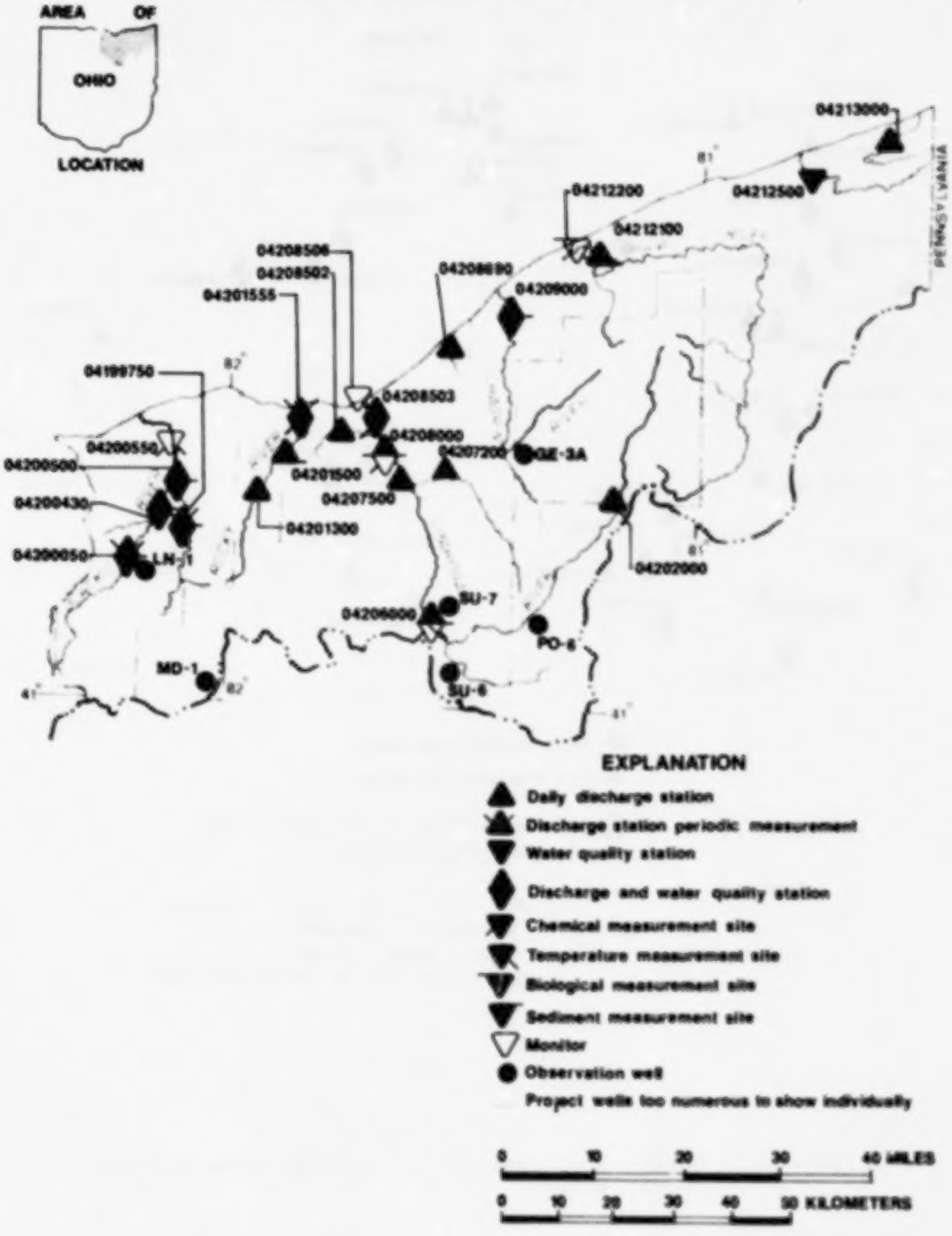
AREA OF
OHIO
LOCATION
04213000
04212500
04212200
04212100
04208690
04209000
04208506
04208502
04201555
04199750
04208503
04208000
04207200
GE-3A
04200550
04200500
04200430
04200050
LN-1
04201500
04207500
04201300
04202000
04206000
SU-7
PO-6
MD-1
SU-6
81°
82°
41°
PENNSYLVANIA
EXPLANATION
Daily discharge station
Discharge station periodic measurement
Water quality station
Discharge and water quality station
Chemical measurement site
Temperature measurement site
Biological measurement site
Sediment measurement site
Monitor
Observation well
Project wells too numerous to show individually
0 10 20 30 40 MILES
0 10 20 30 40 50 KILOMETERS

Figure 2b.--Location of data-collection stations excluding crest-stage and low-flow partial record sites.

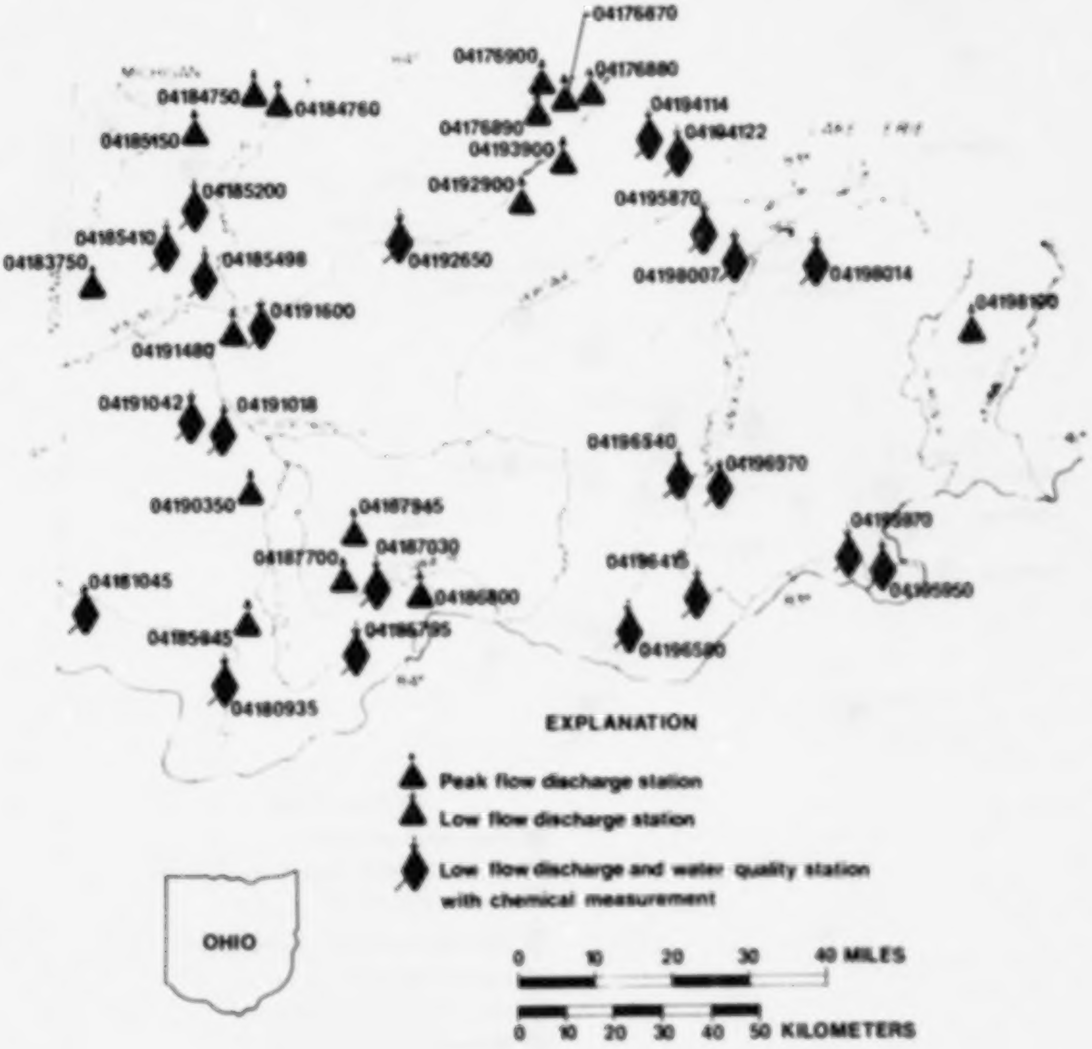
04176870
04176900
04176880
MICHIGAN
04184750
04184760
04176890
04194114
04194122
LAKE ERIE
04185150
04193900
04192900
04185200
04195870
04185410
04183750
04185498
04192650
04198007
04198014
04198100
04191600
04191480
04191042
04191018
04196540
04196570
04190350
04187945
04195870
04187700
04187030
04196415
04181045
04186800
04195950
04185945
04186795
04196580
04180935
EXPLANATION
Peak flow discharge station
Low flow discharge station
Low flow discharge and water quality station with chemical measurement
OHIO
0
10
20
30
40 MILES
0
10
20
30
40
50 KILOMETERS

Figure 2c.--Location of crest-stage and low-flow partial record sites.

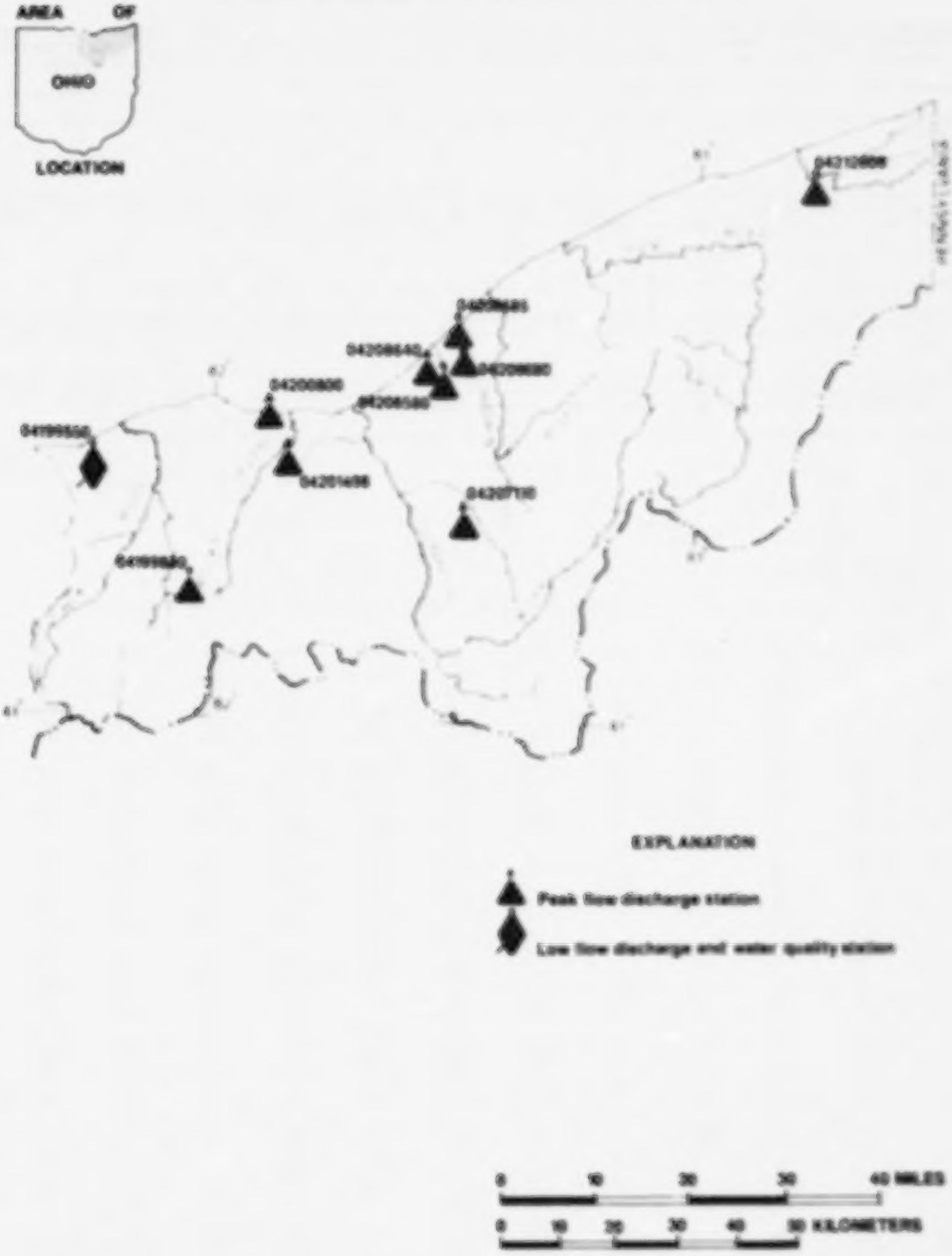
AREA OF
OHIO
LOCATION
04200800
04208640
04208580
04207710
EXPLANATION
Peak flow discharge station
Low flow discharge and water quality station
0 10 20 30 40 MILES
0 10 20 30 40 50 KILOMETERS

Figure 2d.--Location of crest-stage and low-flow partial record sites.

04177000 OTTAWA RIVER AT TOLEDO UNIVERSITY, TOLEDO, OH

LOCATION.--Lat 41°39'36", long 83°36'44", in NE 1/4 sec. 32, T.9 S., R.7 E., Lucas County, Hydrologic Unit 04100001, on left bank at auto bridge at Toledo University, Toledo, Ohio, 0.4 mi (0.6 km) downstream from Deline Ditch, 5.6 mi (9.0 km) upstream from Sibley Creek, and 10.9 mi (17.5 km) upstream from mouth.

DRAINAGE AREA.--150 mi² (388 km²). Area at site used prior to Sept. 30, 1948, 150 mi² (388 km²), revised.

PERIOD OF RECORD.--March 1945 to September 1948 (published as "Tenmile Creek at Toledo"), August 1976 to current year.

REVISED RECORDS.--WSP 1307: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 576.28 ft (175.650 m) National Geodetic Vertical Datum of 1929. (From Aug. 1976 to July, 1979 at site 500 ft (152.4 m) downstream. Prior to Sept. 30, 1948 water-stage recorder at site 2,500 ft (762 m) upstream at datum 3.72 ft (1.134 m) higher.

REMARKS.--Records fair. Water-quality data collected at this site 1977.

AVERAGE DISCHARGE.--7 years (1946-48, 1977-80) 114 ft³/s (3.228 m³/s) 10.32 in/yr (262 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,330 ft³/s (94.3 m³/s) Mar. 22, 1978, gage height, 13.70 ft (4.176 m); minimum, no flow Aug. 24 to Sept. 19, 1945, July 7-15, Aug. 12-15, Sept. 1-9, 16-22, Oct. 5-10, 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943 reached a stage of 15.1 ft (4.602 m) present datum, from floodmark, Lucas County Sanitary Engineers, discharge, 3,400 ft³/s (96.3 m³/s). Flood of Apr. 25, 1950 reached a stage of 15.0 ft (4.572 m) present datum, from floodmark, discharge, 3,300 ft³/s (93.5 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft³/s (25.5 m³/s) "revised" and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1700	*1640	46.4	*10.63	3.240	Apr. 5	0200	1080	30.6	9.00	2.743
Mar. 10	1400	1280	36.3	9.70	2.957	Apr. 15	1400	1350	38.2	9.90	3.018
Mar. 22	1000	1210	34.3	9.46	2.883						

Minimum daily discharge, 10 ft³/s (0.283 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	23	142	116	23	35	542	107	78	16	77	26
2	34	24	115	100	21	32	380	89	122	15	121	40
3	74	14	76	86	19	31	414	77	306	14	318	30
4	42	14	68	76	18	32	786	67	314	27	269	32
5	24	12	65	67	17	35	822	58	121	62	195	26
6	38	12	71	59	16	56	360	53	90	116	77	24
7	44	13	71	52	15	115	234	46	70	84	48	21
8	37	11	64	47	14	150	213	41	110	56	54	18
9	32	40	50	42	13	110	353	36	140	46	29	25
10	34	53	44	37	13	104	455	30	60	34	53	16
11	30	59	43	108	12	175	331	55	48	34	40	15
12	36	43	56	190	12	340	268	48	40	22	50	13
13	29	34	47	158	12	200	238	65	33	19	34	17
14	24	26	42	112	12	100	550	100	30	16	46	18
15	21	24	35	79	12	50	1240	91	28	13	63	14
16	21	24	34	69	11	68	752	66	80	21	51	13
17	22	19	27	76	11	505	358	102	180	15	44	61
18	22	17	32	100	11	1180	231	446	53	11	105	31
19	28	18	23	103	12	702	161	488	59	11	171	30
20	54	19	22	90	14	386	125	215	62	11	331	21
21	23	17	22	74	50	693	101	125	44	11	546	18
22	18	38	69	74	434	1100	91	94	32	144	697	20
23	22	168	228	71	370	516	81	78	27	275	542	19
24	16	512	706	65	260	411	71	71	25	101	165	14
25	14	623	1530	62	150	717	64	64	26	48	86	14
26	13	690	1420	50	70	534	56	53	24	34	59	16
27	13	738	674	41	55	320	62	44	22	18	44	13
28	13	672	362	34	48	251	178	37	20	28	33	12
29	12	685	241	30	40	418	253	34	19	339	31	12
30	11	352	181	27	---	624	156	50	17	213	29	11
31	10	---	141	25	---	589	---	71	---	112	28	---
TOTAL	833	4094	6751	2320	1765	10579	9926	3001	2280	1966	4436	642
MEAN	26.9	166	218	74.8	60.9	341	331	96.8	76.0	63.4	143	21.4
MAX	74	738	1530	190	434	1180	1240	488	314	339	697	61
MIN	10	11	22	25	11	31	56	30	17	11	28	11
CFSM	.18	1.11	1.45	.50	.41	2.27	2.21	.65	.51	.42	.95	.14
IN.	.21	1.24	1.67	.58	.44	2.62	2.46	.74	.57	.49	1.10	.16

CAL YR 1979 TOTAL 47110.0 MEAN 129 MAX 1600 MIN 2.2 CFSM .86 IN 11.68
WTR YR 1980 TOTAL 49493.0 MEAN 135 MAX 1530 MIN 10 CFSM .90 IN 12.27

04183500 MAUMEE RIVER AT ANTWERP, OH

LOCATION.--Lat 41°11'56", long 84°44'40", in sec. 22, T.3 N., R.1 E., Paulding County, Hydrologic Unit 04100005, on left bank 425 ft (130 m) downstream from bridge on State Highway 49, 1 mi (2 km) north of Antwerp, 7 mi (11 km) downstream from Indiana State line and 10 mi (16 km) upstream from Marie DeLarme Creek.

DRAINAGE AREA.--2,129 mi² (5,514 km²).

PERIOD OF RECORD.--September 1921 to December 1935, April 1939 to current year.

REVISED RECORDS.--WSP 1174: 1927, 1933, 1940. WSP 1387: 1922-23, 1925-27, 1934. WDR OH-70-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 694.90 ft (211.805 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 13, 1925, nonrecording gage at site 400 ft (122 m) upstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow slightly regulated by powerplant at Fort Wayne, Indiana, 32 mi (51.5 km) upstream. Flow slightly regulated by upstream reservoirs. Water quality data collected at this site 1969 to 1977.

AVERAGE DISCHARGE.--55 years, 1,666 ft³/s (47.75 m³/s), 10.76 in/yr (273 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,200 ft³/s (742 m³/s) May 20, 1943, gage height, 20.29 ft (6.184 m); minimum daily, 26 ft³/s (0.74 m³/s) July 24, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913, estimated as 40,000 ft³/s (1,130 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,000 ft³/s (227 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1500	10600	300	13.50	4.115	Mar. 23	1000	10200	289	13.15	4.008
Feb. 23	1100	8270	234	11.64	3.548	Apr. 5	0700	8180	232	11.57	3.527
Mar. 18	1000	10600	300	13.48	4.109	June 4	1300	*11300	320	*13.96	4.255

Minimum daily discharge: 163 ft³/s (4.616 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	163	239	4850	3730	430	1780	7290	1530	830	445	1220	866
2	195	376	4250	2750	410	1530	5760	1470	5180	418	863	615
3	522	282	3250	2190	400	1350	4890	1230	10500	386	729	534
4	385	285	2340	1580	390	1200	6840	1180	11200	401	614	538
5	215	328	1830	1560	375	1060	8090	1040	11000	377	504	817
6	215	282	1340	1150	365	1000	7120	684	10700	964	464	1240
7	200	274	1140	1170	360	1140	5610	652	10100	887	436	960
8	239	260	1230	887	360	3030	5060	749	9320	513	431	908
9	223	277	1100	728	360	5360	5520	708	7020	848	385	824
10	244	382	899	1090	360	6590	5300	676	4620	946	373	609
11	244	376	858	1040	360	7350	4480	623	3330	839	393	591
12	244	367	905	1130	355	6660	3750	632	2980	854	378	421
13	210	367	1010	1420	350	5850	3350	818	2620	635	438	474
14	215	349	928	1430	345	4910	3880	842	2310	715	1050	417
15	215	388	876	1520	340	3490	5960	752	1970	682	1940	397
16	226	385	860	1560	340	2700	6480	538	2740	817	2790	388
17	263	346	828	1690	340	5550	5330	722	1940	828	1960	587
18	258	307	705	1880	340	10400	4190	2690	1070	705	2220	1490
19	244	279	429	1890	340	10100	3720	3290	1090	550	1870	1350
20	226	268	527	1810	345	8250	3250	3160	1320	516	2000	1060
21	215	263	661	1630	365	7900	2710	2770	1020	471	3050	824
22	198	260	723	1470	1930	9750	2100	2420	794	1490	2990	672
23	193	370	2930	1220	6320	10100	2000	2360	705	2120	2250	696
24	633	1310	6580	1030	5040	9110	1460	2090	751	1020	1730	754
25	316	2760	10500	696	3680	8900	1430	2100	542	977	1470	494
26	244	4140	10400	660	2730	8790	1240	1650	385	1040	1090	524
27	226	4560	9330	630	2150	7970	1160	1060	443	753	936	481
28	234	5310	7800	600	2000	6530	1180	974	481	865	673	392
29	205	4690	6640	560	1880	5490	1460	839	427	1700	569	426
30	220	5590	5800	500	---	5780	1560	779	486	2260	493	350
31	208	---	4770	460	---	6940	---	728	---	1450	740	---
TOTAL	7838	35670	96289	41661	33360	176560	122230	41756	107874	27732	37049	20741
MEAN	253	1189	3106	1344	1150	5695	4074	1347	3596	895	1195	691
MAX	633	5590	10500	3730	6320	10400	8090	3290	11200	2260	3050	1490
MIN	163	239	429	460	340	1000	1160	538	385	377	373	350
CFSM	.12	.56	1.46	.63	.54	2.68	1.91	.63	1.69	.42	.56	.33
IN.	.14	.62	1.68	.73	.58	3.09	2.14	.73	1.88	.48	.65	.36

CAL YR 1979 TOTAL 629934 MEAN 1726 MAX 16000 MIN 163 CFSM .81 IN 11.01
WTR YR 1980 TOTAL 748760 MEAN 2046 MAX 11200 MIN 163 CFSM .96 IN 13.08

04184500 BEAN CREEK AT POWERS, OH

LOCATION.--Lat 41°40'39", long 84°13'56", in NE 1/4 sec. 24, T.9 S., R.1 E., Fulton County, Hydrologic Unit 04100006, on right bank at downstream side of bridge on U.S. Highway 20, 1 mi (2 km) east of Powers, 2.2 mi (3.5 km) upstream from Iron Creek, 3 mi (5 km) downstream from Silver Creek, and 5.2 mi (8.4 km) east of Fayette.

DRAINAGE AREA.--206 mi² (534 km²).

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1307: 1948 (M) WSP 1912: Drainage area WDR OH-76-2: 1975.

GAGE.--Water-stage recorder. Datum of gage is 717.57 (216.715 m) National Geodetic Vertical Datum of 1929. Prior to Jan. 18, 1941, nonrecording gage, Jan. 18, 1941 to Sept. 30, 1977, water-stage recorder at same site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records poor. Water-quality data collected at this site 1969 to 1977.

AVERAGE DISCHARGE.--40 years, 165 ft³/s (4.673 m³/s), 10.88 in/yr (276 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s (120 m³/s) Apr. 29, 1956, gage height, 18.82 ft (5.736 m) present datum; minimum, 5.0 ft³/s (0.14 m³/s) Aug. 9, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,200 ft³/s (34.0 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1100	1800	51.0	12.59	3.837
Feb. 23	0530	1440	40.8	11.23	3.423
Mar. 18	0045	*2050	58.1	*13.51	4.118
Mar. 22	0200	1300	36.8	10.68	3.255
June 8	1415	1340	37.9	10.86	3.310

Minimum daily discharge: 20.0 ft³/s (0.57 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	33	214	295	73	200	660	222	156	57	360	107
2	21	42	166	254	72	160	562	208	501	66	230	410
3	22	47	130	224	74	130	580	190	860	50	150	405
4	22	44	133	201	75	110	770	178	995	90	100	210
5	22	40	115	178	76	100	1000	166	752	250	150	183
6	25	38	129	142	76	97	850	156	602	390	125	174
7	27	36	135	148	74	93	740	144	499	300	90	142
8	29	35	128	180	72	91	680	131	1210	180	70	118
9	27	33	118	166	70	90	600	121	907	130	60	104
10	27	35	108	151	72	110	650	113	609	161	50	92
11	27	43	103	163	73	359	700	118	416	128	55	80
12	28	37	102	250	74	264	650	124	295	99	65	66
13	29	35	123	273	74	228	600	127	230	90	86	87
14	29	34	109	211	74	173	520	155	180	82	127	96
15	28	38	91	153	73	201	700	148	195	70	283	91
16	27	38	81	140	72	295	900	127	217	63	248	86
17	29	37	70	232	72	1330	700	124	176	71	185	110
18	32	36	77	285	71	1820	550	685	150	65	338	139
19	32	34	89	252	70	1360	430	674	128	60	262	133
20	30	32	64	213	74	1030	350	475	117	53	486	114
21	29	31	55	180	85	1060	300	336	106	49	711	97
22	29	33	57	161	664	1170	260	250	92	127	790	87
23	29	62	161	148	1330	852	230	199	83	90	534	82
24	31	266	738	219	1060	713	200	168	80	58	334	85
25	31	275	1690	262	740	925	175	147	83	48	235	84
26	31	418	1330	210	466	718	155	125	78	46	183	75
27	30	442	958	181	412	580	150	111	74	90	150	72
28	29	510	709	140	325	497	350	100	67	240	127	66
29	28	454	547	120	250	600	500	91	64	800	110	62
30	27	290	434	100	---	609	300	87	60	650	99	58
31	28	---	351	80	---	697	---	127	---	470	94	---
TOTAL	855	3528	9315	5912	6793	16662	15812	6127	9988	5123	6887	3715
MEAN	27.6	118	300	191	234	537	527	198	333	165	222	124
MAX	32	510	1690	295	1330	1820	1000	685	1210	800	790	410
MIN	20	31	55	80	70	90	150	87	60	46	50	58
CFSM	.13	.57	1.46	.93	1.14	2.61	2.56	.96	1.62	.80	1.08	.60
IN.	.15	.64	1.68	1.07	1.23	3.01	2.86	1.11	1.80	.93	1.24	.67

CAL YR 1979 TOTAL 64221 MEAN 176 MAX 2150 MIN 19 CFSM .85 IN 11.60
WTR YR 1980 TOTAL 90717 MEAN 248 MAX 1820 MIN 20 CFSM 1.20 IN 16.36

04185000 TIFFIN RIVER AT STRYKER, OH

LOCATION.--Lat 41°30'16", long 84°25'47", in SW 1/4 sec. 5, T.6 N., R.4 E., Williams County, Hydrologic Unit 04100006, on left bank 0.5 mi (0.8 km) downstream from bridge on State Highway 191 at west edge of Stryker, 0.6 mi (1.0 km) upstream from Penn Central bridge, and 1.6 mi (2.6 km) downstream from Leatherwood Creek.

DRAINAGE AREA.--410 mi² (1,060 km²).

PERIOD OF RECORD.--September 1921 to September 1928 (published as "near Stryker"), October 1940 to current year.

REVISED RECORDS.--WSP 1144: 1922-28. WSP 1387: 1925. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 685.1 ft (208.82 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1928, nonrecording gage at site 3.5 mi (5.6 km) downstream at different datum. Oct. 13, 1940, to Jan. 17, 1941, nonrecording gage and Jan. 18, 1941, to Sept. 30, 1953, water-stage recorder, at site 0.5 mi (0.8 km) downstream at same datum.

REMARKS.--Records fair except those for Jan. 10 to Mar. 20 and periods of missing records, Dec. 3 to Jan. 9, which are poor. Small diversion 12.5 mi (20.1 km) upstream from gage for municipal supply of Archbold. Diversion averaged 1.54 ft³/s (0.044 m³/s) in 1980 and is returned as sewage to Brush Creek which flows into Tiffin River about 15 mi (24 km) downstream from station. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1969 to 1974.

AVERAGE DISCHARGE.--47 years, 313 ft³/s (8.864 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,640 ft³/s (188 m³/s) Apr. 25, 1950, gage height, 15.45 ft (4.709 m); maximum gage height, 16.36 ft (4.987 m) Mar. 23, 1978; minimum daily discharge, 3.9 ft³/s (0.11 m³/s) Aug. 30, 31, Sept. 1, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 16.0 ft (4.88 m), from floodmarks, discharge, 7,600 ft³/s (215 m³/s). Flood in 1937 reached a stage of 15.0 ft (4.57 m), from information by local resident, discharge, 6,000 ft³/s (170 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,850 ft³/s (52.4 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 26	---	2300	65.1	---	---	Apr. 6	1700	1870	53.0	12.28	3.743
Mar. 19	1900	*2460	69.7	*13.22	4.029						

Minimum daily discharge, 21 ft³/s (0.59 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	38	846	800	90	230	1180	436	295	81	687	146
2	22	54	501	660	78	190	1150	374	494	84	262	257
3	23	69	429	560	79	160	1100	327	628	78	179	539
4	25	83	340	460	80	150	1440	295	723	100	225	608
5	25	82	300	390	81	140	1620	271	814	492	253	489
6	26	73	280	340	82	140	1830	252	883	581	207	351
7	31	66	270	290	81	150	1720	232	905	352	160	258
8	34	61	260	240	80	160	1440	211	1260	244	129	203
9	34	63	250	210	78	214	1250	193	1220	224	110	169
10	32	89	240	180	75	373	1130	181	1250	322	98	149
11	29	90	230	214	74	472	1090	177	1180	344	106	132
12	28	87	220	249	73	515	1070	184	953	283	169	119
13	29	87	210	281	72	422	974	199	587	416	181	110
14	31	80	200	321	71	315	953	229	364	302	171	131
15	31	75	190	275	70	296	1080	259	306	195	264	145
16	30	85	170	229	68	356	1210	242	353	139	312	131
17	26	90	160	253	[illegible]	1000	1280	224	317	117	294	202
18	24	80	150	370	66	1730	1150	479	263	108	536	292
19	26	74	140	407	[illegible]	2320	910	676	225	95	769	262
20	29	70	125	368	70	2350	648	798	201	81	847	211
21	34	67	120	313	82	2300	485	791	181	73	897	171
22	35	64	110	274	401	2170	400	613	164	105	995	146
23	36	106	115	244	835	1940	352	418	146	375	1060	127
24	36	409	740	213	942	1770	312	321	131	319	1010	120
25	39	559	2000	174	1100	1650	281	274	124	167	769	117
26	38	781	2200	170	1080	1490	259	240	121	109	428	117
27	37	843	2100	150	889	1390	245	214	113	84	269	111
28	35	1070	1700	130	569	1200	360	192	106	627	208	104
29	34	1030	1400	120	368	1110	487	175	96	1440	171	95
30	33	982	1150	110	---	1100	492	166	87	1490	153	85
31	34	---	920	100	---	1160	---	213	---	1280	141	---
TOTAL	947	7407	18166	9095	7769	28963	27898	9856	14490	10707	12060	6097
MEAN	30.5	247	586	293	268	934	930	[illegible]	483	345	389	203
MAX	39	1070	2200	800	1100	2350	1830	798	1260	1490	1060	608
MIN	21	38	110	100	66	140	245	166	87	73	98	85

CAL YR 1979 TOTAL 110459 MEAN 303 MAX 2200 MIN 19
WTR YR 1980 TOTAL 153455 MEAN 419 MAX 2350 MIN 21

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH

LOCATION.--Lat 40°56'55", long 84°15'58", in SE 1/4 sec. 15, T.1 S., R.5 E., Putnam County, Hydrologic Unit 04100007, on left bank 200 ft (61 m) upstream from bridge on U. S. Highway 224, 3.5 mi (5.6 km) northeast of Fort Jennings, 6 mi (10 km) upstream from Ottawa River, and 7.3 mi (11.7 km) downstream from Jennings Creek.

DRAINAGE AREA.--332 mi² (860 km²).

PERIOD OF RECORD.--August 1921 to December 1935. October 1940 to current year.

REVISED RECORDS.--WSP 744: 1932. WSP 974: 1930(M). WSP 1307: 1922-24(M), 1926-27(M), 1929(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 713.6 ft (217.51 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter period which are fair. Beginning Jan. 4, 1971, water was diverted at a point 24.3 mi (39.1 km) upstream from station into Lake Bresler. Storage in Lake Bresler is available for low-flow augmentation and water supply of city of Lima, in Ottawa River basin. Net withdrawal totaled 1,012 Mgal (3.83 hm³), equivalent to a mean withdrawal of 4.3 ft³/s (0.12 m³/s). No releases have been made for low-flow augmentation. Some diversion from Grand Lake to Auglaize River basin through Miami and Erie Canal into Jennings Creek at a point 9.2 mi (14.8 km) upstream from station. Annual figures of runoff are considered to be within 10 percent of natural yield. Sediment data collected at this site 1970 to 1974. Water-quality data collected at this site 1968 to 1978.

AVERAGE DISCHARGE.--54 years, 285 ft³/s (8.071 m³/s), 11.66 in/yr (296 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 12,000 ft³/s (340 m³/s) Jan. 23, 1959; maximum gage height, 20.30 ft (6.187 m) Jan. 23, 1959, from floodmark (ice jam); minimum daily discharge, 4.9 ft³/s (0.14 m³/s) Oct. 7, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 27	0900	2790	79.0	10.89	3.319	Mar. 22	2100	4340	123	13.19	4.020
Dec. 25	1930	3620	103	12.18	3.712	Mar. 25	1700	2080	58.9	9.50	2.896
Mar. 10	0230	5330	151	14.46	4.407	June 3	2330	*10400	295	*18.45	5.624

Minimum Daily Discharge, 17.0 ft³/s (0.48 m³/s) Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	40	492	224	52	130	1340	63	165	74	84	25
2	36	49	340	188	50	120	669	54	2180	52	49	35
3	35	48	254	163	52	120	454	74	8340	45	40	27
4	43	52	211	142	54	120	869	73	8780	40	32	30
5	49	59	195	127	56	120	1260	69	4620	41	29	37
6	46	56	202	120	56	392	639	67	1060	61	29	32
7	44	51	210	114	56	732	410	63	529	58	26	49
8	45	47	196	110	54	2180	320	62	378	86	24	36
9	41	48	163	110	54	4650	361	59	276	103	23	30
10	39	61	141	103	52	4730	477	57	205	176	20	28
11	36	115	133	196	52	1870	396	61	176	108	24	22
12	36	161	129	1160	52	810	344	56	141	72	29	20
13	36	120	117	876	50	452	363	61	116	145	52	20
14	34	91	104	418	50	348	855	91	100	317	107	18
15	33	75	94	271	50	278	1760	96	92	278	179	17
16	33	65	88	227	50	292	1130	51	101	100	396	18
17	33	59	76	237	52	633	641	55	111	86	297	21
18	31	55	82	318	52	1570	418	374	73	57	187	24
19	30	51	78	283	52	1140	315	452	56	45	125	19
20	35	53	74	218	54	631	255	278	56	43	121	19
21	36	50	69	181	61	1480	229	159	68	36	93	21
22	36	55	260	167	390	3890	177	128	62	38	58	21
23	36	92	1260	156	1840	3530	161	120	58	97	43	21
24	37	1360	2070	154	1290	1130	126	111	60	100	36	27
25	36	2270	3390	175	560	1870	104	304	56	55	32	29
26	36	2400	2960	150	295	1430	85	254	52	41	30	36
27	37	2700	1230	119	200	697	73	179	51	36	26	35
28	36	2250	631	96	170	481	80	117	48	32	24	29
29	37	1910	418	84	140	748	97	91	45	100	24	23
30	37	860	326	70	---	1290	91	81	93	89	23	21
31	37	---	271	56	---	1600	---	117	---	122	22	---
TOTAL	1154	15303	16264	7013	5996	39464	14499	3877	28148	2733	2284	790
MEAN	37.2	510	525	226	207	1273	483	125	938	88.2	73.7	26.3
MAX	49	2700	3390	1160	1840	4730	1760	452	8780	317	396	49
MIN	30	40	69	56	50	120	73	51	45	32	20	17
CFSM	.11	1.54	1.58	.68	.62	3.83	1.46	.38	2.83	.27	.22	.08
IN.	.13	1.71	1.82	.79	.67	4.42	1.62	.43	3.15	.31	.26	.09

CAL YR 1979 TOTAL 130236 MEAN 357 MAX 5550 MIN 19 CFSM 1.08 IN 14.59
WTR YR 1980 TOTAL 137525 MEAN 376 MAX 8780 MIN 17 CFSM 1.13 IN 15.41

04187500 OTTAWA RIVER AT ALLENTOWN, OH

LOCATION.--Lat 40°45'18", long 84°11'41", in NW 1/4 sec. 29, T.3S., R.6E., Allen County, Hydrologic Unit 04100007, on left bank at upstream side of bridge on State Highway 81 at Allentown, 0.3 mi (0.5 km) downstream from Kessler Run, and 1.5 mi (2.4 km) upstream from McBride Ditch.

DRAINAGE AREA.--160 mi² (414 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to December 1935, August 1943 to current year.

REVISED RECORDS.--WSP 1004: 1924. WSP 1144: 1944(M). WSP 1207: 1927. WSP 1387: 1924(M), 1927-28(M), 1929, 1930(M), 1935(M). WSP 1912: Drainage area. WDR OH-77-2: 1976 (P).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 789.14 ft (240.530 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1925, nonrecording gage and Oct. 1, 1925, to Dec. 30, 1935, water-stage recorder, at site 35 ft (11 m) downstream at same datum.

REMARKS.--Records fair. Diurnal fluctuation and some regulation caused by operation of water-supply and sewage-treatment plants of city of Lima upstream from station.

AVERAGE DISCHARGE.--49 years, 126 ft³/s (3.568 m³/s), 10.69 in/yr (372 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,740 ft³/s (219 m³/s) Jan. 22, 1959, gage height, 10.88 ft (3.316 m), from rating curve extended above 4,800 ft³/s (136 m³/s); minimum daily, 2.4 ft³/s (0.068 m³/s) June 28, July 21, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 15, 1939, reached a stage of 10.1 ft (3.08 m), discharge, 6,160 ft³/s (174 m³/s), and flood in May 1943 reached a stage of about 10 ft (3 m), discharge, about 6,000 ft³/s (170 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,830 ft³/s (137 m³/s) June 2, gage height, 9.52 ft (2.902 m), above base of 1,600 ft³/s (45.3 m³/s); minimum discharge 22 ft³/s (0.62 m³/s) Aug. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	46	59	107	43	73	340	63	293	43	41	36
2	44	54	54	103	40	66	312	55	3360	42	53	49
3	40	35	48	74	38	62	225	53	2930	38	46	37
4	58	32	46	78	37	60	361	52	1200	39	40	44
5	43	32	74	76	36	210	385	52	432	78	38	47
6	37	31	94	73	36	245	317	50	303	55	37	40
7	34	31	105	72	36	224	278	49	193	46	44	33
8	29	33	94	62	36	416	248	49	136	49	40	30
9	36	53	83	56	36	408	286	50	103	77	41	29
10	34	76	76	55	35	384	299	48	94	109	34	28
11	32	65	71	253	35	385	228	46	80	82	82	31
12	37	68	70	484	34	249	225	61	67	121	67	34
13	33	52	68	340	34	99	249	72	61	513	56	32
14	31	41	61	214	33	98	303	63	57	309	152	31
15	29	39	53	176	34	137	500	55	76	104	120	28
16	34	38	49	143	36	155	325	46	132	55	78	28
17	34	38	46	149	36	300	240	75	77	34	72	44
18	31	36	47	189	36	375	120	205	65	51	79	31
19	31	36	48	172	39	338	87	224	57	58	60	30
20	30	40	48	131	55	216	97	91	63	89	60	30
21	28	33	49	107	107	380	146	45	50	47	55	31
22	27	34	271	100	485	840	112	63	46	78	64	33
23	36	178	492	97	468	940	93	80	44	73	94	136
24	31	474	502	79	223	900	84	96	63	48	83	45
25	31	441	506	76	106	800	77	275	48	42	65	51
26	32	458	497	81	60	560	75	138	43	38	57	66
27	29	425	366	66	107	400	74	86	41	39	52	37
28	29	430	202	56	104	237	99	63	40	196	46	32
29	29	247	114	49	91	342	96	63	68	197	39	30
30	32	106	101	47	---	365	77	102	53	93	27	31
31	31	---	125	45	---	358	---	224	---	46	34	---
TOTAL	1045	3702	4519	3810	2496	10627	6370	2692	10275	2889	1856	1184
MEAN	33.7	123	146	123	86.1	343	212	86.8	343	93.2	59.9	39.5
MAX	58	474	506	484	485	940	500	275	3360	513	152	136
MIN	27	31	46	45	33	60	74	45	40	34	27	28
CFSM	.21	.77	.91	.77	.54	2.14	1.33	.54	2.14	.58	.37	.25
IN.	.24	.86	1.05	.89	.58	2.47	1.48	.63	2.39	.67	.43	.28

CAL YR 1979 TOTAL 51661 MEAN 142 MAX 3200 MIN 27 CFSM .89 IN 12.01
WTR YR 1980 TOTAL 51465 MEAN 141 MAX 3360 MIN 27 CFSM .88 IN 11.97

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1969 to current year.
pH: October 1977 to current year.
WATER TEMPERATURES: March 1969 to current year.
DISSOLVED OXYGEN: October 1977 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,810 micromhos Feb. 11, 1977; minimum, 171 micromhos Mar. 8, 1980.
pH: Maximum, 9.4 units Feb. 26, 1978; minimum, 6.8 units Nov. 9, 1979.
WATER TEMPERATURES: Maximum recorded, 31.5°C June 29, 1970, July 15, 1976; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 20.0 mg/L May 1, 3, 4, 1980; minimum recorded, 0.4 mg/L Sept. 23, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,780 micromhos Feb. 18; minimum, 171 micromhos Mar. 8.
pH: Maximum, 9.1 units June 11; minimum, 6.8 units Nov. 9.
WATER TEMPERATURES: Maximum, 29.5°C Aug. 8; minimum, 0.5°C on many days during winter period.
DISSOLVED OXYGEN: Maximum recorded, 20.0 mg/L May 1, 3, 4; minimum recorded, 0.4 mg/L Sept. 23.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1510	1370	1550	1360	1130	927	945	903	1560	1320	1220	1150
2	1390	1270	1300	1020	1260	1130	987	936	1550	1410	1250	1140
3	1370	1230	1370	1230	1310	1170	1090	966	1580	1360	1210	1180
4	1470	1120	1410	1280	1390	1300	1050	1000	1580	1430	1250	1190
5	1270	1060	1320	1280	1410	1180	1130	1020	1480	1300	1250	693
6	1380	1280	1320	1250	1190	1000	1190	1080	1470	1330	687	552
7	1460	1370	1430	1300	1020	978	1200	1150	1470	1340	654	426
8	1520	1360	1540	1450	1010	969	1270	1180	1650	1440	333	171
9	1340	1230	1570	1290	1030	981	1360	1260	1650	1480	279	189
10	1360	1210	1190	972	1120	1000	1280	1180	1610	1460	381	285
11	1340	1260	1230	1040	1170	1090	1280	609	1660	1510	465	375
12	1400	1300	1110	1030	1180	1110	564	432	1590	1390	660	466
13	1500	1380	1150	1070	1160	1110	648	489	1500	1370	930	729
14	1530	1460	1220	1090	1170	1100	822	663	1510	1390	1280	822
15	1580	1430	1210	1110	1160	1110	912	816	1500	1380	900	846
16	1430	1300	1340	1130	1180	1140	975	903	1550	1420	897	831
17	1350	1220	1330	1220	1200	1140	987	912	1670	1560	837	510
18	1360	1210	1360	1280	1340	1210	900	831	1780	1590	543	471
19	1510	1370	1310	1200	1420	1270	834	798	1680	1480	663	534
20	1550	1440	1240	1070	1450	1330	864	813	1660	1400	765	669
21	1560	1450	1280	1140	1420	1320	939	870	1700	1150	777	288
22	1550	1440	1490	1290	1390	585	1060	954	1030	378	408	294
23	1550	1230	1540	687	621	513	1060	1010	468	396	564	417
24	1290	1160	690	525	552	390	1150	1060	696	477	645	492
25	1350	1250	618	534	438	396	1250	1160	879	705	465	414
26	1400	1290	540	453	567	441	---	---	1220	891	639	453
27	1370	1290	633	516	687	564	---	---	1130	882	816	621
28	1360	1290	636	567	822	696	---	---	1020	930	855	729
29	1440	1300	729	600	969	819	---	---	1170	1040	789	558
30	1450	1370	927	735	1080	870	---	---	---	---	600	540
31	1540	1460	---	---	903	855	---	---	---	---	603	474
MONTH	1580	1060	1570	453	1450	390	1380	432	1780	378	1280	171

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	651	492	1090	1020	852	405	1270	1120	1270	1180	1390	1320
2	762	438	1080	1020	423	249	1230	1110	1290	972	1450	1130
3	801	693	1100	1020	381	312	1270	1140	1090	1030	1300	1130
4	732	360	1160	1100	498	369	1290	1150	1110	1060	1360	1180
5	546	411	1260	1160	621	507	1450	1010	1160	1070	1330	1120
6	690	549	1300	1240	723	606	1050	996	1190	1090	1440	1360
7	801	684	1300	1210	822	720	1360	1050	1270	1130	1540	1420
8	831	795	1350	1270	915	813	1360	1030	1360	1150	1480	1340
9	---	---	1370	1290	978	897	1230	825	1360	1310	1470	1330
10	---	---	1410	1300	1000	957	1010	876	1340	1200	1480	1330
11	---	---	1320	1210	1040	954	1100	942	1290	942	1420	1300
12	---	---	1260	1120	1080	1030	1040	864	1160	864	1510	1380
13	---	---	1120	1040	1200	1010	771	393	1250	1020	1550	1420
14	---	---	1140	1060	1260	1160	552	396	1150	726	1680	1460
15	---	---	1110	1050	1270	1090	858	558	915	678	1650	1560
16	621	549	1310	1030	1070	735	1050	661	993	732	1630	1440
17	777	624	1350	870	1050	792	1270	1070	1070	966	1530	1270
18	1050	798	840	759	1080	1020	1560	1170	1080	942	1330	1200
19	1050	852	831	732	1180	1070	1200	1090	1250	1000	1390	1260
20	882	843	1030	843	1210	1090	1150	738	1270	1060	1480	1390
21	879	843	1240	1010	1200	1080	1130	894	1170	1020	1630	1400
22	945	837	1360	1030	1250	1180	1150	984	1140	984	1690	1480
23	1010	939	1110	1010	1360	1130	1150	885	1100	948	1480	705
24	1050	990	1110	972	1400	1140	1160	924	975	921	1170	804
25	1150	966	990	456	1240	1140	1340	1190	936	825	1320	1180
26	1120	1070	678	468	1310	1130	1420	1330	1060	945	1320	975
27	1170	1090	837	678	1340	1230	1450	1340	1160	1080	1180	996
28	1190	1080	984	834	1290	1250	1410	468	1280	1150	1340	1200
29	1120	1040	1150	978	1340	1120	848	393	1390	1180	1450	1250
30	1090	999	1190	948	1270	1150	846	648	1340	1190	1440	1350
31	---	---	831	573	---	---	1150	849	1540	1220	---	---
MONTH	1190	360	1410	456	1400	249	1560	393	1540	678	1690	705
YEAR	1780	171										

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.1	7.3	~7.8	7.5	8.1	7.9	8.1	8.0	7.9	7.6	7.9	7.7
2	7.6	7.3	7.7	7.5	8.1	7.8	8.2	8.1	7.9	7.7	7.8	7.7
3	7.7	7.3	7.9	7.6	7.8	7.7	8.2	8.1	7.8	7.6	7.9	7.6
4	7.5	7.2	7.7	7.1	8.2	7.7	8.5	8.1	7.9	7.6	7.9	7.7
5	7.5	7.2	7.7	7.3	8.0	7.8	8.5	8.2	7.9	7.7	7.9	7.5
6	7.6	7.2	7.5	7.3	8.1	7.9	8.3	8.1	7.9	7.8	7.8	7.6
7	7.5	7.2	7.6	7.3	8.3	8.1	8.4	8.2	7.9	7.8	7.7	7.5
8	7.5	7.1	7.5	7.3	8.7	8.3	8.5	8.0	7.9	7.7	7.6	7.4
9	7.4	7.1	7.3	6.8	8.3	8.2	8.0	7.8	7.8	7.6	7.4	7.4
10	7.5	7.1	7.2	7.0	8.2	8.1	8.4	7.8	7.8	7.6	7.5	7.4
11	7.4	7.2	7.4	7.1	8.2	8.0	8.2	7.5	8.0	7.7	7.5	7.4
12	7.6	7.3	7.5	7.3	8.2	7.9	7.7	7.6	8.1	7.9	7.6	7.5
13	7.6	7.3	7.5	7.3	8.2	8.0	7.8	7.7	8.0	7.8	7.6	7.5
14	7.6	7.3	7.5	7.3	8.2	8.0	7.9	7.8	8.0	7.8	7.8	7.5
15	7.5	7.3	7.5	7.3	8.0	7.9	7.9	7.8	7.8	7.6	7.9	7.8
16	7.4	7.2	7.5	7.3	8.4	8.0	7.8	7.7	7.9	7.6	7.9	7.7
17	7.5	7.2	7.7	7.5	8.3	8.0	7.9	7.8	8.0	7.7	7.8	7.6
18	7.5	7.2	7.6	7.4	8.1	8.0	7.9	7.8	8.0	7.9	7.6	7.5
19	7.5	7.2	7.6	7.3	8.0	7.8	7.9	7.8	7.9	7.8	7.7	7.6
20	7.4	7.1	7.8	7.4	8.0	7.9	8.0	7.8	7.9	7.6	7.7	7.6
21	7.4	7.1	7.6	7.4	7.9	7.8	8.1	7.9	8.0	7.7	7.7	7.5
22	7.4	7.2	7.5	7.3	8.0	7.7	8.0	7.8	7.8	7.4	7.7	7.5
23	7.4	7.2	7.7	7.4	7.8	7.7	7.9	7.7	7.5	7.4	7.6	7.5
24	7.5	7.2	7.7	7.6	7.7	7.5	7.9	7.8	7.7	7.4	7.7	7.6
25	7.8	7.3	7.7	7.6	8.5	7.6	7.9	7.6	7.7	7.7	7.8	7.6
26	8.2	7.6	7.7	7.6	8.4	8.1	---	---	8.0	7.7	7.8	7.7
27	8.3	7.6	7.7	7.7	8.4	8.1	---	---	8.0	7.6	7.8	7.7
28	8.2	7.6	8.0	7.7	8.3	8.0	---	---	8.0	7.7	---	---
29	8.2	7.6	8.2	8.0	8.1	7.9	---	---	7.9	7.6	---	---
30	8.1	7.5	8.3	8.1	8.1	7.9	---	---	---	---	---	---
31	8.0	7.4	---	---	8.1	8.0	---	---	---	---	---	---
MONTH	8.3	7.1	8.3	6.8	8.7	7.5	8.5	7.5	8.1	7.4	7.9	7.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1			---	---	7.6	7.2	8.5	7.7	7.6	7.2	8.3	7.2
2			---	---	7.4	7.0	8.7	7.5	8.2	7.2	7.9	7.3
3			---	---	7.3	7.0	8.7	7.7	8.1	7.5	8.1	7.3
4			---	---	7.6	7.1	8.5	7.5	8.4	7.5	8.1	7.2
5			---	---	7.9	7.3	7.8	7.3	8.5	7.5	8.5	7.3
6			---	---	7.6	7.4	7.9	7.3	8.7	7.5	8.6	7.3
7			---	---	7.5	7.4	8.0	7.2	8.6	7.6	8.7	7.3
8			---	---	8.1	7.5	7.6	7.2	8.3	7.3	8.9	7.4
9			---	---	8.2	7.8	7.6	7.2	8.0	7.2	8.7	7.8
10			---	---	8.5	7.9	7.6	7.2	8.5	7.2	8.8	7.7
11			---	---	9.1	7.7	8.0	7.6	7.6	7.2	8.7	7.9
12			---	---	8.6	7.8	7.8	7.4	7.6	7.2	8.6	7.7
13			---	---	8.3	7.9	7.6	7.2	7.8	7.2	8.5	7.6
14			---	---	8.1	7.8	7.7	7.3	7.6	7.2	8.4	7.3
15			---	---	8.0	7.6	7.5	7.2	7.7	7.2	8.0	7.4
16			---	---	8.4	7.2	7.7	7.2	7.9	7.2	8.4	7.5
17			---	---	8.4	7.6	8.6	7.4	7.8	7.5	8.2	7.1
18			---	---	8.3	7.9	8.3	7.7	8.2	7.3	8.4	7.3
19			---	---	8.4	7.9	8.3	7.6	8.4	7.3	8.2	7.3
20			---	---	8.8	7.8	8.4	7.2	8.0	7.3	8.2	7.2
21			---	---	8.6	8.0	8.1	7.2	7.8	7.3	8.3	7.2
22			---	---	8.5	8.0	7.8	7.4	8.1	7.3	8.0	7.1
23			---	---	8.7	8.1	7.8	7.2	8.2	7.5	7.7	7.1
24			---	---	8.4	7.6	8.1	7.3	8.1	7.7	8.0	7.4
25			---	---	8.6	7.5	8.1	7.4	7.8	7.5	8.1	7.4
26			---	---	8.5	7.8	8.1	7.4	7.9	7.3	8.0	7.4
27			---	---	8.3	7.7	7.7	7.4	8.0	7.3	8.9	7.3
28			---	---	8.2	7.6	7.6	7.2	8.2	7.3	8.3	7.4
29			8.0	7.5	8.0	7.5	7.6	7.0	8.4	7.3	8.2	7.3
30			8.0	7.5	8.1	7.5	7.5	7.1	8.4	7.4	8.4	7.3
31			7.6	7.1	---	---	7.6	7.3	8.2	7.3	---	---
MONTH			8.0	7.1	9.1	7.0	8.7	7.0	8.7	7.2	8.9	7.1
YEAR	9.1	6.8										

04187500 OTTAWA RIVER AT ALLENTOWN, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	19.5	14.5	13.0	4.5	3.5	4.0	4.0	1.0	.5	1.5	.5
2	20.0	19.0	12.5	10.5	4.0	2.5	4.0	3.5	1.0	.5	2.0	.5
3	19.0	18.0	10.5	9.0	3.5	1.5	4.5	3.5	1.0	.5	2.5	.5
4	18.5	17.0	10.0	8.0	5.0	3.0	3.5	3.0	1.0	.5	5.0	1.5
5	17.0	14.5	10.5	8.0	7.0	5.0	2.5	2.0	1.0	.5	5.0	1.5
6	15.0	13.5	10.5	9.5	6.5	5.0	3.0	2.5	2.5	1.0	3.5	.5
7	14.0	12.5	9.5	8.0	6.0	4.5	2.5	1.0	2.5	1.0	3.0	1.5
8	14.0	12.0	8.5	8.0	5.0	4.0	1.5	.5	2.5	.5	1.5	1.0
9	14.0	13.0	10.0	8.5	4.5	3.5	2.5	1.0	4.0	2.5	2.5	1.0
10	12.5	11.5	10.5	8.5	5.0	3.5	4.0	1.0	4.0	2.5	4.0	2.0
11	11.5	10.5	8.5	7.0	8.0	5.0	6.5	2.0	3.5	1.5	3.0	2.0
12	12.5	10.5	7.5	5.5	8.5	7.0	2.0	.5	2.0	.5	3.5	1.5
13	11.0	9.5	7.5	6.0	7.0	5.0	2.5	1.0	2.5	.5	3.5	2.5
14	11.5	9.0	8.0	6.5	5.0	4.0	4.0	2.5	4.5	2.5	6.0	2.5
15	11.0	9.5	8.0	7.0	4.5	3.0	4.0	3.0	4.0	2.5	7.5	3.5
16	13.0	11.0	8.5	7.0	4.5	2.5	6.0	4.0	3.5	1.5	8.0	5.5
17	15.5	13.0	9.5	7.0	2.0	.5	7.0	6.0	2.5	.5	8.0	6.0
18	16.5	14.5	11.0	8.5	2.5	.5	6.0	5.5	2.0	.5	6.0	4.5
19	17.5	15.0	10.5	9.0	4.0	2.5	5.5	5.0	5.5	2.0	7.5	5.0
20	19.0	16.5	12.0	10.0	4.0	2.5	5.0	4.0	6.5	5.5	8.0	6.5
21	20.0	17.5	13.0	11.0	5.5	3.0	4.5	3.0	6.5	5.0	6.0	5.0
22	21.0	18.5	13.5	13.0	6.5	4.5	4.5	3.5	4.5	2.0	5.5	4.0
23	18.5	12.5	13.5	11.0	6.5	4.5	3.5	.5	2.0	2.0	6.0	5.5
24	12.0	10.5	11.0	8.5	8.5	6.5	.5	.5	3.0	2.0	7.0	6.0
25	10.0	9.5	8.5	8.0	9.0	6.0	3.5	.5	3.0	.5	6.5	5.0
26	10.5	8.5	9.0	8.5	6.0	5.0	---	---	2.0	.5	5.0	4.5
27	11.0	8.5	9.0	8.0	5.5	5.0	---	---	3.5	2.0	8.0	4.5
28	13.0	11.0	8.5	6.0	5.0	4.5	---	---	4.0	1.5	8.0	7.0
29	13.0	10.5	6.0	4.5	5.0	4.5	---	---	3.0	1.0	8.0	7.0
30	13.0	10.5	4.5	4.0	5.5	4.0	---	---	---	---	7.0	6.5
31	15.0	12.0	---	---	4.0	4.0	---	---	---	---	7.0	6.5
MONTH	21.5	8.5	14.5	4.0	9.0	.5	7.0	.5	6.5	.5	8.0	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.0	17.5	13.0	22.0	19.5	23.5	21.0	26.5	25.0	27.0	24.0
2	9.0	7.0	17.5	14.0	19.5	18.5	25.5	22.0	27.0	25.5	25.5	24.0
3	9.5	7.5	20.0	14.5	20.5	19.0	24.5	22.5	26.5	24.5	25.0	21.5
4	9.0	6.5	22.0	17.0	20.0	19.0	25.5	22.5	27.5	23.5	24.5	22.0
5	8.5	5.5	22.0	18.0	20.5	18.5	26.5	23.5	26.0	25.5	25.5	23.0
6	11.0	7.5	22.0	18.5	22.0	18.5	26.0	23.0	26.5	25.0	25.5	22.5
7	11.5	9.5	19.5	16.0	23.0	21.5	24.0	21.5	29.0	25.0	24.0	22.0
8	12.0	10.5	15.5	13.0	22.0	20.0	25.0	22.5	29.5	26.5	25.0	21.5
9	---	---	17.0	11.5	20.0	18.0	24.5	23.5	28.0	26.5	24.0	22.0
10	---	---	17.5	14.0	20.5	18.5	26.5	23.5	28.5	25.5	22.5	19.5
11	---	---	20.0	15.5	20.5	18.0	27.5	24.0	26.5	25.0	21.5	18.5
12	---	---	18.5	17.0	22.0	17.0	26.5	24.5	25.5	23.5	22.5	19.0
13	---	---	22.0	17.0	22.5	18.5	24.0	22.0	25.5	22.5	24.0	21.0
14	---	---	19.0	16.5	23.0	20.5	25.0	21.5	24.5	23.0	24.5	22.5
15	---	---	19.0	15.0	22.0	20.0	26.5	23.5	24.0	22.5	22.5	20.5
16	8.5	6.5	19.0	15.5	20.0	17.5	29.0	26.0	23.0	21.5	20.0	19.0
17	11.5	7.0	17.0	16.0	21.5	17.0	29.0	26.0	22.0	21.0	20.0	18.5
18	15.0	9.0	18.0	15.5	23.5	18.5	27.5	24.5	24.0	21.5	20.0	18.5
19	17.0	12.0	17.0	16.0	23.0	20.0	29.0	25.5	26.0	23.0	21.0	17.0
20	17.0	13.0	18.5	15.5	22.0	18.0	26.5	24.0	26.0	24.0	23.0	19.0
21	18.0	13.0	21.0	16.5	23.5	19.0	26.0	26.0	27.0	25.0	24.5	21.5
22	19.5	14.0	22.5	18.0	25.0	20.0	26.0	24.5	28.0	23.5	26.0	23.0
23	19.0	15.5	21.0	19.5	25.0	21.5	25.5	23.0	25.5	22.5	23.5	20.0
24	16.5	14.0	21.5	19.0	25.0	22.5	26.5	22.5	25.0	22.0	20.5	17.5
25	14.5	11.5	21.0	19.0	27.0	22.5	27.0	23.0	25.5	23.5	20.5	18.0
26	16.0	12.0	20.5	17.0	28.0	24.0	27.5	24.0	26.0	23.0	19.5	17.0
27	14.0	12.5	21.0	16.5	27.5	25.0	26.5	24.5	27.0	23.5	17.5	15.0
28	12.5	11.5	22.5	18.0	27.0	24.5	24.0	22.0	27.0	24.0	18.5	15.5
29	15.5	10.0	24.0	20.0	27.0	24.0	24.5	21.0	27.5	24.5	19.5	16.5
30	15.0	12.0	23.5	21.5	24.0	22.0	25.0	22.5	26.5	24.0	20.5	17.0
31	---	---	23.5	20.5	---	---	26.5	23.0	26.0	23.5	---	---
MONTH	19.5	5.5	24.0	11.5	28.0	16.0	29.0	21.0	29.5	21.0	27.0	15.0
YEAR	29.5	.5										

04187100 OTTAWA RIVER AT ALLENTOWN, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1					---	---	12.4	11.3	13.7	13.0	14.2	11.1
2					---	---	12.6	11.8	13.2	12.3	14.2	13.0
3					---	---	12.1	11.5	13.1	12.0	13.8	12.7
4					---	---	12.9	11.4	13.6	12.3	13.6	11.8
5					---	---	13.2	11.8	13.8	12.9	12.7	10.8
6					11.2	11.0	12.4	11.1	13.5	12.3	12.0	12.1
7					11.6	10.8	12.9	11.9	13.8	12.4	13.0	12.0
8					12.3	11.1	12.9	12.0	13.5	12.1	12.7	11.7
9					12.1	10.8	12.1	11.6	13.5	11.5	12.4	11.0
10					11.0	10.9	12.1	11.0	13.0	11.1	11.6	10.5
11					11.0	9.9	12.9	9.9	13.9	11.1	12.4	11.0
12					10.1	9.3	13.0	12.1	14.2	12.0	12.3	11.1
13					10.5	9.6	12.9	11.0	14.2	13.1	11.9	11.4
14					11.5	9.9	12.2	10.7	14.3	12.4	12.5	11.4
15					11.5	10.0	12.3	12.1	13.0	11.3	12.3	11.2
16					11.4	10.2	12.4	11.0	15.3	11.2	11.9	11.0
17					12.6	10.6	11.8	10.8	14.2	12.5	11.0	10.4
18					12.4	11.0	12.7	11.4	14.0	12.7	12.3	10.0
19					12.2	10.5	13.3	11.8	15.1	11.1	12.2	11.0
20					12.0	10.9	13.6	12.0	13.3	10.0	11.5	10.4
21					11.9	10.5	13.0	12.1	12.0	9.4	12.0	10.0
22					12.2	10.7	13.2	11.8	12.2	8.7	11.5	10.1
23					12.5	11.9	14.4	12.7	11.5	10.3	---	---
24					12.1	11.1	13.0	12.2	11.6	10.5	---	---
25					11.7	11.1	12.4	10.9	11.8	10.1	12.5	11.5
26					12.6	11.8	---	---	11.7	10.5	12.4	11.7
27					12.5	12.1	---	---	12.9	10.5	12.4	10.7
28					12.3	12.0	---	---	11.6	10.4	11.3	10.0
29					12.1	11.5	---	---	11.9	10.7	11.9	11.1
30					12.3	10.9	---	---	---	---	12.0	11.7
31					12.4	11.9	---	---	---	---	11.9	11.4
MONTH					12.6	9.3	14.4	9.9	15.3	8.7	14.2	10.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.9	11.6	20.0	6.0	5.2	3.2	11.4	2.3	8.1	2.4	12.2	1.0
2	11.8	11.2	19.5	5.6	6.4	5.1	15.0	2.1	10.5	2.4	8.5	1.2
3	11.4	10.9	20.0	5.3	6.5	6.3	13.4	2.9	11.2	3.1	11.4	1.0
4	11.8	10.9	20.0	3.4	7.2	6.6	12.2	2.9	13.8	2.9	9.6	1.0
5	12.1	11.2	18.7	3.4	7.2	6.4	7.7	1.8	15.0	2.9	12.5	1.5
6	11.5	10.5	10.1	2.5	7.5	6.3	8.8	1.9	10.7	3.0	13.1	1.4
7	10.8	10.3	13.4	2.4	8.1	5.8	6.3	1.4	15.9	2.0	13.6	1.5
8	10.4	10.0	10.5	3.1	6.6	5.4	6.0	1.7	13.3	1.9	10.2	2.0
9	---	---	12.7	4.7	7.0	5.6	6.1	1.4	10.5	1.7	10.1	3.7
10	---	---	12.0	3.5	7.9	5.4	7.1	2.0	13.6	1.6	15.2	4.1
11	---	---	12.3	3.0	8.6	6.2	8.7	2.5	6.0	1.7	10.3	4.9
12	---	---	9.0	2.3	10.1	6.0	5.5	2.0	7.7	2.2	15.3	3.2
13	---	---	11.6	3.3	10.7	5.1	6.3	2.0	9.1	2.1	14.5	2.3
14	---	---	9.6	2.7	10.0	4.7	7.2	5.5	5.9	2.7	12.9	1.4
15	---	---	11.3	3.7	8.6	4.3	5.7	3.7	5.7	3.0	12.7	1.4
16	11.9	10.0	13.0	4.1	5.1	4.1	7.7	2.6	8.5	3.3	11.3	2.0
17	11.5	10.5	8.3	3.0	9.5	4.6	13.0	3.3	7.5	3.1	10.3	2.4
18	10.7	9.6	8.3	5.5	10.8	5.3	10.3	3.7	11.3	3.2	12.1	2.4
19	9.7	9.1	7.4	6.3	10.2	5.1	11.5	2.6	13.9	2.3	12.3	2.1
20	9.7	9.3	9.2	6.6	9.6	4.6	6.0	2.5	9.0	1.7	12.2	1.7
21	9.7	9.1	11.8	3.2	11.7	5.0	9.1	2.3	8.7	1.6	11.8	1.6
22	9.7	8.8	10.7	2.8	13.4	4.9	7.5	2.8	9.5	1.6	9.6	.9
23	9.4	8.7	8.5	3.5	13.5	4.0	5.4	3.0	10.7	2.4	8.2	.4
24	10.1	9.3	9.2	3.9	11.1	2.5	9.5	2.5	10.3	3.2	8.9	3.5
25	10.7	9.8	8.7	4.2	13.8	1.8	10.3	2.6	9.1	3.3	9.3	3.6
26	10.3	9.7	7.1	5.7	12.8	2.1	11.1	2.9	9.1	2.2	9.1	3.0
27	10.9	9.6	8.9	5.6	10.9	2.3	8.4	2.3	9.8	1.7	9.9	3.3
28	10.4	9.1	9.5	5.6	9.7	1.8	5.6	2.5	11.2	1.6	12.5	3.5
29	10.7	9.3	10.3	3.7	7.5	1.8	5.6	4.1	12.5	1.5	11.9	3.2
30	10.7	8.8	10.3	3.1	9.1	1.7	5.5	3.8	12.3	1.7	13.2	2.9
31	---	---	6.5	2.6	---	---	7.1	3.5	11.1	1.7	---	---
MONTH	12.1	8.7	20.0	2.3	13.8	1.6	15.0	1.4	16.7	1.5	16.3	.4
YEAR	20.0	.4										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04189000 BLANCHARD RIVER NEAR FINDLAY, OH

LOCATION.--Lat 41°03'25", long 83°41'17", on east line of sec. 10, T.1 N., R.10 E., Hancock County, Hydrologic Unit 04100008, on left bank at upstream side of county road bridge, 2 mi (3 km) west of Findlay, 3 mi (5 km) downstream from Eagle Creek, and 3 mi (5 km) upstream from Aurand Run.

DRAINAGE AREA.--346 mi² (896 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to December 1935, October 1940 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 976: 1942. WSP 1056: 1927-30, 1933(M), 1945. WSP 1307: 1924, 1929(M), 1930(M), 1932. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 754.35 ft (229.927 m) National Geodetic Vertical Datum of 1929. Prior to July 26, 1930, nonrecording gage at same site and datum.

REMARKS.--Records fair except for winter periods and those above 1,000 ft³/s, which are poor. Water is diverted upstream from station into Findlay Reservoir. Storage in Findlay Reservoir used for water supply of city of Findlay, and is available for low-flow augmentation. All water returns to stream upstream from station. No releases have been made for low-flow augmentation. Sediment data collected at this site 1970-76.

AVERAGE DISCHARGE.--52 years, 248 ft³/s (7.023 m³/s), 9.73 in/yr (247 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) Feb. 11, 1959, gage height, 16.76 ft (5.108 m) from rating curve extended above 10,000 ft³/s (283 m³/s); minimum daily, 0.4 ft³/s (0.011 m³/s) Aug. 27, Sept. 3, 1936.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.5 ft (5.94 m); discharge, 22,000 ft³/s (623 m³/s), from rating curve extended above 10,000 ft³/s (283 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	0500	3560	101	9.71	2.960	Mar. 22	0530	*4980	141	*11.17	3.405
Mar. 9	0330	3150	89.2	9.29	2.832	June 4	1630	3980	113	9.90	3.018

Minimum daily discharge, 24 ft³/s (0.68 m³/s) Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	57	367	289	39	75	1240	161	186	60	50	146
2	44	52	261	267	37	70	657	96	1590	50	65	76
3	44	47	181	212	51	67	652	80	3000	44	38	55
4	60	43	---	175	52	69	1290	81	3860	54	34	41
5	54	44	187	130	51	173	1410	82	2400	346	31	47
6	55	46	192	121	52	414	750	80	599	270	30	58
7	60	45	200	117	53	519	640	77	385	95	27	65
8	60	42	187	99	50	2100	355	72	349	76	32	40
9	60	77	157	120	54	2990	577	60	224	123	59	37
10	55	135	146	109	50	2790	650	66	175	149	31	33
11	56	175	130	447	51	1200	343	73	130	231	66	31
12	59	150	133	1220	44	564	501	66	113	194	95	29
13	56	114	120	884	45	354	565	61	96	362	132	29
14	53	92	110	673	46	270	1990	90	87	509	136	28
15	53	82	99	319	47	230	1040	66	121	277	107	26
16	60	76	90	276	45	255	1310	59	507	132	186	26
17	56	67	78	324	43	779	800	112	304	85	144	60
18	56	62	68	442	41	1640	380	522	207	91	120	31
19	53	64	56	360	47	962	323	626	160	50	112	28
20	54	61	49	275	57	572	273	296	136	44	152	26
21	51	57	48	222	88	3070	232	186	94	40	380	24
22	50	62	642	192	720	4450	203	142	83	77	990	27
23	52	323	1440	183	1090	2970	191	103	76	60	1100	40
24	48	1150	2410	183	822	1290	155	100	76	67	667	48
25	47	1160	3370	156	377	1770	146	191	144	39	165	57
26	46	1660	2600	133	209	1390	120	176	90	34	106	58
27	44	1530	1390	100	190	709	119	122	71	35	87	52
28	43	1290	717	96	139	502	152	97	80	44	65	63
29	44	752	473	77	106	454	125	86	89	36	56	36
30	42	482	371	69	---	1050	113	123	50	133	49	30
31	41	---	321	65	---	1620	---	116	---	100	156	---
TOTAL	1617	9975	---	8339	4696	35604	17310	4327	15234	3901	5466	1415
MEAN	52.2	333	---	269	162	1149	577	140	508	126	176	47.2
MAX	60	1660	---	1220	1090	4450	1990	626	3860	509	1100	146
MIN	41	42	---	65	37	67	113	59	50	34	27	24
CFSM	.15	.96	---	.78	.47	3.32	1.67	.41	1.47	.36	.51	.14
IN.	.17	1.07	---	.90	.50	3.83	1.86	.47	1.64	.42	.59	.15

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1968 to September 1980 (discontinued).
pH: July 1968 to September 1980 (discontinued).
WATER TEMPERATURES: July 1968 to September 1980 (discontinued).
DISSOLVED OXYGEN: July 1968 to September 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,710 micromhos Feb. 22, 1979; minimum, 134 micromhos Jan. 28, 1970.
pH: Maximum, 9.4 units Feb. 21, 1977; minimum, 3.1 units May 13, 1970.
WATER TEMPERATURES: Maximum, 33.0°C Aug. 27, 28, Sept. 5, 1969; minimum, 0.0°C on several days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L on several days during 1972, Jan. 28, 1980; minimum, 0.0 mg/L June 10, July 2, 3, 1970, Aug. 2, 1975.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum 1,080 micromhos Sept. 5, Jan. 25; minimum, 166 micromhos Mar. 8, 9.
pH: Maximum recorded, 8.5 units June 23, 24, Aug. 6; minimum recorded, 7.0 units Feb. 14.
WATER TEMPERATURES: Maximum 30.5°C July 20; minimum, 0.0°C Feb. 25, 26, 29, Mar. 1, 2, 9.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L Jan. 28, minimum, 4.4 mg/L July 23.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	921	826	750	697	756	726	949	913	637	790
2	---	---	879	865	771	739	760	748	939	915	813	777
3	---	---	885	871	805	765	790	766	951	906	848	788
4	---	---	886	865	820	796	832	763	925	897	884	835
5	---	---	873	838	834	810	849	817	960	933	948	786
6	---	---	894	861	852	826	853	822	961	925	756	687
7	---	---	926	886	849	831	863	826	973	945	471	411
8	---	---	915	883	837	817	888	894	963	939	388	166
9	---	---	916	739	834	838	900	868	973	949	181	166
10	---	---	891	742	876	868	912	892	956	921	313	186
11	---	---	868	844	920	819	916	486	948	915	391	321
12	913	891	897	855	849	831	468	417	967	927	484	393
13	927	904	903	876	868	843	508	429	984	913	591	452
14	920	873	904	871	876	830	615	516	963	945	634	562
15	886	876	870	840	1000	830	699	610	960	933	684	625
16	897	867	855	828	---	---	736	697	1000	986	673	669
17	---	---	849	816	---	---	739	706	1060	975	682	676
18	---	---	828	801	---	---	702	648	985	921	686	658
19	---	---	834	802	---	---	657	633	986	915	516	457
20	---	---	859	814	930	910	685	645	1070	985	588	522
21	---	---	858	826	952	913	726	678	1030	894	587	253
22	---	---	865	819	910	950	739	708	983	357	273	249
23	---	---	826	850	543	516	772	720	380	313	485	273
24	---	---	851	810	540	390	790	762	417	316	520	416
25	---	---	613	380	411	384	1080	780	511	423	445	375
26	---	---	563	520	454	409	1030	850	763	519	463	382
27	---	---	528	504	553	459	850	823	771	894	502	468
28	---	---	649	508	627	558	849	826	777	893	607	587
29	---	---	649	612	684	624	877	849	823	769	603	490
30	---	---	697	648	765	667	868	877	---	---	519	463
31	987	888	---	---	725	705	912	876	---	---	480	390
MONTH	920	867	921	504	1000	384	1080	417	1070	313	948	166

STREAMS TRIBUTARY TO LAKE ERIE

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	643	421	700	730	744	562	736	651	723	637	511	399
2	567	471	746	734	661	635	741	673	670	618	618	516
3	612	544	701	730	444	320	747	704	657	612	605	621
4	576	361	744	700	327	301	745	678	674	634	560	638
5	399	360	745	702	675	324	684	301	667	672	1000	672
6	525	685	716	717	505	683	656	288	704	678	777	708
7	661	536	704	720	631	567	684	660	741	705	---	---
8	634	580	709	763	622	501	668	610	740	505	782	704
9	689	584	817	777	660	600	667	571	676	538	786	768
10	561	520	625	762	733	687	725	625	678	640	---	---
11	555	520	742	715	751	717	727	625	681	676	---	---
12	569	550	774	721	742	732	703	520	615	567	---	---
13	570	567	742	700	772	738	520	420	640	502	---	---
14	560	310	610	745	771	741	430	342	667	508	---	---
15	344	315	619	700	744	510	440	345	670	507	---	---
16	600	344	620	700	576	301	510	667	502	505	---	---
17	565	472	617	610	550	609	577	511	561	502	652	732
18	565	565	667	565	676	625	610	350	642	520	610	745
19	645	613	654	667	725	601	630	505	691	631	650	822
20	670	630	661	613	736	669	652	663	654	559	667	819
21	721	684	705	681	742	704	675	620	505	531	---	---
22	730	699	741	705	745	714	703	344	520	273	---	---
23	736	700	777	706	745	711	610	322	271	242	---	---
24	760	725	775	663	736	700	634	622	423	273	676	745
25	769	742	706	673	727	610	---	---	553	427	678	880
26	747	739	741	704	622	580	---	---	715	546	---	---
27	742	736	730	705	649	606	---	---	672	552	---	---
28	760	684	772	736	685	636	---	---	690	622	---	---
29	772	736	763	733	706	656	---	---	736	663	---	---
30	775	750	763	567	727	663	622	729	730	604	763	721
31	---	---	761	624	---	---	941	708	730	289	---	---
MONTH	775	315	817	565	772	301	941	288	746	242	1000	399
YEAR	1000	166										

STREAMS TRIBUTARY TO LAKE ERIE

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.9	7.7	---	---	7.8	7.7	8.1	7.1	7.9	7.9	8.0	7.9
2	7.9	7.7	---	---	7.8	7.7	7.3	6.8	7.8	7.6	7.9	7.9
3	8.0	7.8	---	---	7.9	7.8	7.5	6.8	8.0	7.8	8.0	7.9
4	8.1	7.8	---	---	7.8	7.8	7.7	7.4	8.0	7.6	7.9	7.8
5	8.2	8.0	---	---	7.8	7.8	7.8	7.3	7.9	7.4	7.9	7.7
6	8.3	8.2	---	---	7.8	7.8	8.0	7.2	8.0	7.6	7.8	7.7
7	8.4	8.2	---	---	7.9	7.8	8.1	7.8	7.9	7.5	7.7	7.6
8	8.4	8.2	---	---	7.9	7.8	8.0	7.7	7.8	7.3	7.7	7.4
9	8.3	8.2	---	---	8.0	7.8	7.9	7.3	7.8	7.5	7.5	7.4
10	8.4	8.0	---	---	7.9	7.8	8.2	7.4	7.7	7.4	7.7	7.5
11	---	---	---	---	7.9	7.7	8.1	7.7	7.9	7.6	7.9	7.7
12	---	---	---	---	7.8	7.7	8.0	7.3	7.9	7.6	7.9	7.8
13	---	---	---	---	7.9	7.8	8.0	8.0	7.8	7.4	7.9	7.8
14	---	---	---	---	8.0	7.8	8.0	7.8	7.5	7.0	8.0	7.9
15	---	---	---	---	8.0	7.8	8.0	7.9	7.8	7.2	8.1	7.9
16	---	---	---	---	8.1	7.8	8.1	8.0	8.0	7.7	8.1	8.0
17	---	---	---	---	8.2	7.8	8.1	8.0	7.9	7.7	8.1	7.7
18	---	---	---	---	8.0	7.8	8.1	8.0	7.8	7.6	7.8	7.6
19	---	---	---	---	7.9	7.8	8.1	8.0	7.8	7.6	7.8	7.7
20	---	---	---	---	7.9	7.7	8.1	8.1	7.9	7.4	7.9	7.8
21	---	---	---	---	7.8	7.7	8.1	7.4	7.1	7.6	7.9	7.5
22	---	---	---	---	7.7	7.5	8.1	7.5	7.9	7.2	7.5	7.5
23	---	---	---	---	7.6	7.5	8.1	7.8	7.9	7.8	7.6	7.5
24	---	---	---	---	7.5	7.0	7.9	7.7	7.9	7.8	7.7	7.6
25	---	---	---	---	6.8	6.3	7.8	7.6	8.0	7.9	7.7	7.6
26	---	---	---	---	7.4	6.2	7.8	7.6	8.0	7.9	7.7	7.6
27	---	---	---	---	7.6	6.0	7.8	7.6	8.0	7.9	7.7	7.6
28	---	---	---	---	7.8	7.6	7.8	7.6	8.0	7.9	7.8	7.6
29	---	---	7.7	7.6	7.8	7.0	7.7	7.6	8.1	7.8	7.8	7.6
30	---	---	7.8	7.7	7.3	6.8	7.6	7.3	---	---	7.8	7.6
31	---	---	---	---	7.1	6.9	7.9	7.4	---	---	7.7	7.6
MONTH	8.4	7.7	7.8	7.6	8.2	6.0	8.2	6.8	8.1	7.0	8.1	7.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.8	7.6	8.1	7.8	7.9	7.6	8.3	7.7	---	---	---	---
2	7.8	7.7	7.9	7.7	7.7	7.3	8.3	7.6	---	---	---	---
3	7.8	7.8	8.0	7.8	7.3	7.2	8.3	7.7	---	---	---	---
4	7.9	7.6	8.0	7.7	7.2	7.2	7.9	7.4	---	---	---	---
5	7.8	7.6	8.0	7.6	7.5	7.2	7.8	7.4	---	---	---	---
6	7.9	7.7	7.9	7.6	7.6	7.5	7.5	7.2	7.8	7.2	---	---
7	7.9	7.9	7.9	7.5	7.6	7.6	7.6	7.4	8.2	7.8	---	---
8	7.9	7.9	8.0	7.6	7.8	7.5	7.6	7.4	8.5	7.5	---	---
9	7.9	7.9	8.0	7.7	7.8	7.7	7.8	7.4	8.0	7.5	---	---
10	7.9	7.8	8.1	7.7	7.8	7.7	7.8	7.6	7.9	7.8	7.7	7.5
11	7.9	7.8	8.0	7.6	7.9	7.7	7.8	7.6	8.0	7.7	7.9	7.6
12	7.9	7.8	7.9	7.6	7.9	7.7	7.7	7.3	8.2	7.8	7.6	7.6
13	7.9	7.9	7.9	7.6	7.9	7.8	7.7	7.4	8.2	8.0	7.6	7.6
14	8.0	7.5	8.1	7.5	8.0	7.8	7.6	7.5	8.1	7.9	7.7	7.6
15	7.6	7.5	8.0	7.8	8.3	7.7	7.6	7.3	8.2	7.9	7.8	7.7
16	7.8	7.6	7.8	7.6	7.8	7.3	7.6	7.4	8.2	8.1	7.7	7.6
17	7.8	7.7	7.7	7.5	7.6	7.5	7.6	7.4	8.2	8.0	7.6	7.5
18	7.8	7.8	7.7	7.6	7.8	7.7	7.7	7.3	8.2	8.0	7.7	7.6
19	7.9	7.8	7.7	7.6	8.0	7.5	8.0	7.5	8.2	8.0	7.8	7.6
20	7.9	7.8	7.6	7.5	8.1	7.5	8.0	7.5	8.3	7.9	7.7	7.5
21	7.9	7.7	7.6	7.5	8.1	7.8	8.1	7.6	8.3	8.1	7.6	7.5
22	7.8	7.7	7.6	7.4	8.2	7.8	7.9	7.6	8.2	7.9	7.6	7.5
23	7.9	7.8	7.6	7.5	8.5	7.9	8.0	7.4	8.0	7.9	7.6	7.4
24	7.9	7.8	7.6	7.5	8.5	7.9	8.0	7.6	8.1	7.9	7.9	7.5
25	7.9	7.8	7.6	7.5	8.4	7.9	---	---	8.2	7.9	7.9	7.6
26	7.9	7.8	7.7	7.6	8.0	7.6	---	---	8.1	7.9	7.8	7.6
27	8.0	7.8	7.7	7.5	8.2	7.6	---	---	8.1	8.0	7.9	7.6
28	7.9	7.8	7.6	7.5	8.3	7.9	---	---	8.2	8.0	7.7	7.5
29	8.0	7.8	7.6	7.5	8.4	7.7	---	---	---	---	7.6	7.5
30	8.2	7.9	7.9	7.5	8.3	7.6	---	---	---	---	7.6	7.5
31	---	---	7.8	7.5	---	---	---	---	---	---	---	---
MONTH	8.2	7.5	8.1	7.4	8.5	7.2	8.3	7.2	8.5	7.2	7.9	7.4
YEAR	8.5	6.0										

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	18.5	14.0	11.5	3.5	3.0	4.0	3.5	2.0	1.0	2.0	.0
2	20.5	19.0	11.5	10.0	3.5	2.5	4.0	3.5	3.0	1.5	2.5	.0
3	19.5	18.5	10.5	9.0	3.5	1.5	4.0	3.0	2.5	1.5	3.0	.5
4	18.5	17.5	10.0	8.5	3.5	1.5	3.5	2.5	2.5	1.0	4.5	1.0
5	17.0	15.5	10.5	8.5	5.0	3.0	3.0	2.0	3.0	1.0	3.0	.5
6	15.5	14.5	10.0	9.5	5.5	4.5	3.0	2.0	3.0	2.0	1.5	.5
7	14.5	13.5	9.0	8.0	5.5	4.5	2.0	1.0	3.0	1.5	1.0	.5
8	15.0	12.5	8.0	7.5	5.0	3.5	2.0	1.0	3.5	1.5	1.0	.5
9	14.0	13.0	9.5	8.0	4.0	3.0	3.0	1.0	3.0	2.5	1.0	.0
10	13.5	12.0	9.0	7.0	4.5	3.5	3.0	1.5	3.0	2.0	3.0	1.0
11	---	---	7.5	6.5	6.5	4.0	4.0	1.5	2.5	1.5	2.5	1.5
12	12.5	11.5	7.5	5.5	7.0	6.5	1.5	.5	3.0	1.0	2.0	.5
13	11.0	9.5	6.5	5.5	6.5	5.5	1.0	.5	3.5	1.5	2.0	1.0
14	11.5	9.0	7.0	5.5	5.5	4.0	2.5	1.5	4.0	2.5	3.0	1.5
15	11.5	9.0	7.0	6.0	4.5	3.5	3.0	2.5	3.5	1.5	5.0	2.5
16	12.5	11.0	7.5	6.0	4.0	1.5	4.5	3.0	3.0	1.0	6.0	4.0
17	13.5	12.0	8.5	6.0	2.5	1.0	5.0	4.5	2.0	1.0	6.0	4.5
18	14.5	12.5	9.5	6.5	4.0	1.5	5.0	4.0	3.0	1.0	4.5	3.5
19	15.5	13.5	10.0	7.5	4.5	3.5	4.5	3.5	4.5	2.0	5.5	4.0
20	17.5	15.0	10.5	9.0	4.5	3.0	4.0	3.0	4.5	3.5	6.5	5.0
21	19.0	16.0	11.5	9.5	5.5	3.5	3.5	2.5	4.5	3.0	6.5	4.5
22	20.0	17.0	12.0	11.0	6.0	2.5	3.5	2.5	3.0	.5	5.0	3.0
23	19.0	13.0	12.0	10.5	5.5	4.0	2.5	.5	.5	.5	5.5	4.5
24	12.5	11.0	10.5	8.5	8.0	5.5	1.5	.5	.5	.5	7.0	5.5
25	12.0	10.0	8.5	7.5	8.0	6.0	2.0	1.0	1.5	.0	5.5	5.0
26	10.5	9.5	8.5	8.0	6.0	4.5	2.5	.5	2.0	.0	6.0	4.5
27	10.5	8.5	8.0	7.5	5.0	4.5	2.5	.5	2.5	1.0	---	---
28	11.0	10.0	8.0	6.0	4.5	4.0	2.5	.5	3.0	.5	6.5	6.0
29	10.5	9.5	6.0	4.0	4.0	4.0	2.0	.5	2.0	.0	6.5	5.5
30	12.0	9.5	4.0	3.5	4.0	3.5	3.0	1.0	---	---	6.0	5.0
31	14.0	11.5	---	---	4.0	3.5	2.5	1.5	---	---	6.0	5.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.5	6.0	16.0	11.5	21.0	20.0	23.5	19.5	---	---	25.0	22.5
2	7.5	6.5	16.0	13.0	20.5	18.0	25.5	21.0	---	---	25.0	23.0
3	7.5	6.5	19.0	13.0	20.0	18.5	26.5	21.5	---	---	26.0	21.5
4	7.5	5.5	20.5	15.5	20.5	20.0	25.0	23.0	---	---	24.5	22.5
5	7.5	5.0	21.0	15.5	20.0	19.0	23.0	21.5	---	---	25.0	22.5
6	9.0	7.0	20.5	16.0	21.0	18.5	23.5	21.0	28.5	25.0	25.0	22.0
7	9.0	8.5	18.0	15.0	21.0	20.5	22.0	20.5	30.0	25.0	24.0	21.0
8	10.5	9.0	15.5	13.0	20.5	19.0	25.0	21.5	30.0	24.0	25.0	21.0
9	10.0	8.0	17.0	11.5	18.5	17.0	24.0	21.5	29.5	25.5	24.5	22.0
10	8.0	6.5	16.5	12.0	18.5	16.0	24.5	21.5	29.0	26.0	23.0	20.0
11	8.5	6.0	18.0	13.5	19.5	16.0	25.5	22.0	26.0	23.5	22.0	19.0
12	9.0	8.5	16.0	15.0	21.0	16.5	24.5	22.5	26.5	23.5	22.0	20.0
13	8.5	7.0	20.0	15.5	22.5	17.5	23.5	21.5	26.0	23.0	24.0	21.0
14	7.5	5.5	18.0	14.5	22.5	19.0	24.0	22.0	25.0	23.0	24.0	22.5
15	5.5	5.0	19.5	14.5	21.0	19.0	26.0	22.5	25.5	23.0	23.5	20.5
16	7.5	5.0	19.5	15.0	18.5	15.5	28.0	25.0	23.5	21.5	20.5	19.0
17	9.0	6.5	17.0	15.0	17.5	16.0	28.5	25.0	21.5	20.0	20.0	19.0
18	9.0	8.5	15.5	14.5	20.5	17.5	27.5	24.0	22.5	20.0	20.5	16.5
19	13.5	11.0	16.5	15.5	21.5	19.0	29.0	24.5	24.5	21.5	22.0	18.0
20	15.0	12.5	16.5	15.0	21.0	17.5	30.5	24.5	24.5	23.0	23.0	20.0
21	15.5	12.5	18.5	16.0	22.5	18.0	28.5	25.5	24.0	24.0	24.5	22.0
22	16.5	13.5	21.0	16.5	24.0	19.0	26.5	24.0	24.0	22.5	25.5	23.5
23	17.0	14.5	20.5	18.5	24.5	20.0	27.0	22.5	23.5	22.0	25.0	20.5
24	15.5	12.0	20.0	18.5	24.0	22.0	28.0	22.5	23.5	21.5	21.0	19.0
25	13.5	11.0	20.5	18.5	24.5	21.5	---	---	24.5	22.0	20.5	18.5
26	14.0	10.5	20.5	17.5	26.0	21.5	---	---	25.5	22.5	19.5	16.5
27	13.0	11.0	20.5	17.0	27.5	23.0	---	---	27.0	22.5	18.5	15.0
28	11.5	11.0	22.0	17.5	27.5	24.0	---	---	27.5	23.5	19.0	15.5
29	14.0	10.0	23.0	18.5	27.0	23.5	---	---	28.0	24.5	19.5	16.0
30	14.0	11.0	23.0	20.0	23.5	20.5	---	---	27.0	24.5	20.0	17.0
31	---	---	24.0	20.0	---	---	---	---	25.5	22.0	---	---
MONTH	17.0	5.0	24.0	11.5	27.5	15.5	30.5	19.5	30.0	20.0	26.0	15.0
YEAR	30.5	.0										

04189000 BLANCHARD RIVER NEAR FINDLAY, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	12.4	12.0	---	---	12.0	9.4	13.8	11.7
2	---	---	---	---	12.8	12.2	---	---	11.9	9.5	13.6	11.7
3	---	---	---	---	13.3	12.2	---	---	13.6	10.0	14.1	11.7
4	---	---	---	---	13.7	12.6	---	---	13.2	10.6	13.9	10.9
5	---	---	---	---	13.1	11.4	---	---	13.3	9.9	13.2	10.6
6	---	---	---	---	12.0	10.0	---	---	14.1	10.0	13.3	13.0
7	---	---	---	---	12.4	11.6	---	---	13.6	10.3	13.6	13.1
8	---	---	---	---	12.6	9.7	12.4	11.5	13.7	10.2	13.6	12.9
9	---	---	---	---	13.9	11.3	12.7	11.6	14.0	10.2	13.1	12.7
10	---	---	9.3	7.1	12.5	11.2	13.9	11.8	14.4	10.2	12.8	12.0
11	---	---	10.2	9.2	12.0	10.6	13.7	11.8	14.9	10.3	13.7	12.8
12	8.8	8.4	11.0	10.0	---	---	14.4	13.0	13.9	10.3	13.9	13.1
13	9.3	8.1	10.8	9.9	---	---	14.5	13.9	14.6	10.1	13.0	12.3
14	9.6	8.4	10.8	9.8	---	---	13.9	13.5	13.4	9.8	13.2	12.4
15	9.3	8.4	10.8	9.6	---	---	13.6	12.8	13.1	9.6	13.2	12.1
16	8.8	7.8	10.9	9.1	---	---	13.5	12.7	14.5	10.2	12.9	11.7
17	8.5	7.4	11.1	9.3	---	---	13.0	12.6	13.6	10.0	12.7	12.0
18	8.3	7.4	10.9	9.1	---	---	13.5	12.9	13.7	10.0	13.5	11.9
19	8.4	7.0	10.7	8.7	---	---	13.7	13.3	13.9	9.4	13.9	13.1
20	8.2	6.6	9.8	7.8	---	---	14.0	13.2	11.6	8.9	13.2	11.3
21	7.7	6.4	9.5	7.7	---	---	13.8	11.8	13.2	9.6	---	---
22	7.5	5.9	8.7	7.7	---	---	13.1	12.0	12.7	11.1	---	---
23	7.4	5.3	9.8	7.4	---	---	14.5	12.9	12.8	12.6	---	---
24	7.7	6.7	10.7	9.9	---	---	13.9	12.7	13.1	12.8	---	---
25	8.0	6.7	11.0	10.6	---	---	14.1	12.8	13.0	12.6	---	---
26	8.6	7.0	11.2	10.0	---	---	14.4	13.2	13.0	12.4	---	---
27	9.3	7.6	10.6	10.3	---	---	14.8	13.1	12.9	12.2	---	---
28	9.1	7.4	11.6	10.6	---	---	15.0	12.9	13.0	11.7	11.5	11.0
29	---	---	12.0	11.6	---	---	14.7	12.7	13.5	11.8	11.5	10.9
30	---	---	12.4	12.0	---	---	12.8	11.1	---	---	11.1	10.9
31	---	---	---	---	---	---	12.4	9.7	---	---	10.9	10.4
MONTH	9.6	5.3	12.4	7.1	13.9	9.7	15.0	9.7	14.9	8.9	14.1	10.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.3	10.5	11.1	8.5	7.5	5.3	11.1	6.5				
2	11.3	10.8	10.1	8.1	7.9	6.7	11.8	5.7				
3	11.1	10.5	10.7	7.8	7.1	6.8	12.5	6.8				
4	11.0	10.6	11.5	6.9	6.8	6.4	9.9	5.9				
5	11.3	10.9	10.3	6.8	7.9	6.6	8.1	5.6				
6	11.1	10.5	9.6	5.8	8.3	7.8	8.2	6.9				
7	10.5	10.0	8.4	5.8	7.9	7.1	6.9	6.4				
8	10.0	9.3	9.7	6.2	8.3	7.1	6.8	5.7				
9	10.4	9.5	9.8	6.7	8.4	8.2	7.4	5.6				
10	11.0	10.5	10.8	6.8	8.6	8.2	8.8	6.5				
11	11.2	10.5	10.4	6.3	9.9	7.9	8.3	7.3				
12	10.5	10.1	8.9	6.4	9.6	7.8	7.0	5.4				
13	11.5	10.5	10.6	5.2	10.0	7.8	8.3	5.7				
14	11.2	10.5	10.3	5.9	10.3	7.6	8.7	7.5				
15	11.1	10.5	9.8	6.5	11.1	7.7	8.2	6.6				
16	11.8	11.1	8.8	6.5	9.4	8.4	6.5	5.6				
17	11.8	10.8	7.2	5.3	9.7	8.7	6.1	5.3				
18	10.8	10.3	8.7	6.7	9.4	8.4	6.4	5.2				
19	9.5	8.9	8.7	8.1	10.6	7.2	7.9	5.4				
20	9.2	8.4	8.2	7.2	10.2	7.3	8.8	5.4				
21	9.1	7.9	7.2	6.7	11.3	7.9	8.2	5.5				
22	8.6	8.0	6.8	5.9	12.6	7.9	7.2	4.7				
23	8.3	7.6	6.4	5.5	13.7	7.4	7.5	4.4				
24	8.5	7.6	6.7	5.5	12.9	7.7	9.2	5.1				
25	9.2	8.0	7.0	6.3	12.4	8.4	---	---				
26	9.3	8.2	7.4	6.7	10.6	7.0	---	---				
27	9.7	8.3	6.9	6.2	11.0	6.6	---	---				
28	9.5	7.8	6.6	5.6	10.7	6.1	---	---				
29	10.4	8.3	6.9	5.6	11.7	5.5	---	---				
30	11.3	8.9	8.2	5.1	10.5	6.2	---	---				
31	---	---	8.1	4.7	---	---	---	---				
MONTH	11.8	7.6	11.5	4.7	13.7	5.3	12.5	4.4				
YEAR	15.0	4.4										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04191500 AUGLAIZE RIVER NEAR DEFIANCE, OH

LOCATION.--Lat 41°14'15", long 84°23'57", in NE 1/4 sec. 9, T.3 N., R.4 E., Defiance County, Hydrologic Unit 04100007, on right bank 125 ft (38 m) downstream from dam of Toledo Edison Co., 0.2 mi (0.3 km) upstream from Jackson ditch, and 3 mi (5 km) south of Defiance.

DRAINAGE AREA.--2,318 mi^2 (6,004 km^2).

PERIOD OF RECORD.--May to August 1903 (gage heights only), April 1915 to current year. Monthly discharge only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 954: 1941. WSP 1912: Drainage area. WRD OH-72-1: 1966(M).

GAGE.--Water-stage recorder. Datum of gage is 659.70 ft (201.077 m) National Geodetic Vertical Datum of 1929. May 20 to Aug. 8, 1903, nonrecording gage at site 1.8 mi (2.9 km) downstream at different datum. April 13, 1915, to Dec. 6, 1933, nonrecording gage near right bank on upstream side of dam at datum 6.00 ft (1.829 m) higher, and auxiliary tailwater staff gage near right bank on downstream side of dam at present datum.

REMARKS.--Records good except Oct. 1 to Jan. 15 and those for winter periods which are fair. Flow regulated by dam at former powerplant 125 ft (38 m) upstream from station; reservoir capacity, 9,800 acre-ft (12.1 hm^3), operation of plant discontinued Jan. 10, 1963; occasional gate operation subsequently. Some diversion by Miami and Erie Canal from Grand Lake into Jennings Creek, tributary to Auglaize River 70 mi (113 km) upstream from station. Water-quality data collected at this site 1966 to 1977.

AVERAGE DISCHARGE.--65 years, 1,709 ft^3/s (48.40 m^3/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,500 ft^3/s (1,490 m^3/s) Feb. 16, 1950, Feb. 12, 1959, gage height, 26.4 ft (8.05 m), from graph based on hourly powerplant tailwater-gage readings, respectively; maximum gage height, 27.65 ft (8.428 m) Feb. 13, 1959, from flood mark (ice jam); minimum daily discharge, 0.5 ft^3/s (0.014 m^3/s) Oct. 13, 14, 1952, during repairs to powerplant dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 38.8 ft (11.83 m), from reading on powerplant tailwater gage at present datum; discharge, 120,000 ft^3/s (3,400 m^3/s), from rating curve extended above 51,000 ft^3/s (1,440 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,200 ft^3/s (912 m^3/s) June 4, gage height, 21.16 ft (6.450 m); minimum daily, 28 ft^3/s (0.79 m^3/s) Nov. 20, 21, result of gate operations.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	191	4610	1300	364	1000	9340	752	1120	351	505	276
2	171	180	2600	1050	351	880	7050	644	7510	305	403	369
3	171	223	1590	860	322	840	4000	556	19200	266	310	429
4	181	230	1200	720	307	810	5610	517	28100	230	253	351
5	187	234	1050	670	306	800	7900	489	18000	255	213	358
6	214	241	1070	600	285	1200	6080	446	11000	243	171	341
7	208	199	1240	540	263	2000	4000	424	3480	444	155	331
8	208	194	1140	515	250	4500	2460	406	1070	653	143	288
9	198	189	1040	480	240	8600	2220	388	810	624	137	241
10	199	218	865	536	235	12000	2470	369	720	783	133	188
11	198	400	777	735	230	10000	2580	340	880	883	172	159
12	190	800	713	2560	220	7200	2320	354	778	827	247	137
13	178	500	695	4770	220	4420	2250	403	626	2220	300	131
14	176	600	634	4180	230	2560	3970	397	523	3260	492	117
15	178	300	569	2810	240	1920	9370	426	550	2310	743	108
16	180	160	498	1850	245	1910	9620	412	1420	1300	1250	112
17	171	90	445	1670	235	5670	7140	445	1820	755	1470	117
18	173	45	370	1980	230	10000	3570	1510	1450	498	1260	119
19	202	30	403	2240	230	10400	2490	4320	929	362	906	122
20	187	28	415	2070	235	7980	1940	2230	852	289	1380	140
21	170	28	394	1640	270	8260	1590	2060	706	251	3070	133
22	176	35	1420	1360	2220	14000	1400	1320	560	720	2390	127
23	196	220	7820	1200	5650	16900	1130	885	439	929	1530	121
24	137	3380	15300	1120	6590	13700	1000	755	389	738	1360	164
25	148	8550	19400	1100	4340	11500	863	1090	442	635	1300	221
26	157	11400	20500	1200	3000	10500	733	1840	572	433	922	195
27	171	10900	16200	1000	2200	7910	641	1500	466	302	546	218
28	162	11900	9690	780	1500	4040	1310	1040	386	377	355	210
29	153	11500	5990	640	1250	3740	636	702	313	391	272	183
30	148	7120	3180	540	---	6090	584	561	296	629	226	164
31	166	---	1670	420	---	8990	---	521	---	606	220	---
TOTAL	5511	70085	123468	43136	32258	200320	106267	28102	105407	22869	22834	6170
MEAN	178	2336	3983	1391	1112	6462	3543	907	3514	738	737	206
MAX	214	11900	20500	4770	6590	16900	9620	4320	28100	3260	3070	429
MIN	137	28	370	420	220	800	584	340	296	230	133	108

CAL YR 1979 TOTAL 750926 MEAN 2057 MAX 27600 MIN 28
WTR YR 1980 TOTAL 766467 MEAN 2094 MAX 28100 MIN 28

04192500 MAUMEE RIVER NEAR DEFIANCE, OH

LOCATION.--Lat 41°17'30", long 84°16'52", in NW 1/4 sec. 22, T.4 N., R.5 E., Defiance County, Hydrologic Unit 04100009, on left bank 40 ft. (12 m) upstream from Independence Dam, 4 mi (6 km) downstream from mouth of Auglaize River, and 4.5 mi (7.2 km) east of Defiance.

DRAINAGE AREA.--5,545 mi^2 (14,362 km^2).

PERIOD OF RECORD.--October 1924 to December 1935, March 1939 to September 1974, October 1978 to current year.

REVISED RECORDS.--WSP 974: 1926-27, 1930. WSP 1387: 1925-28, 1946. WRD Ohio, 1970: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 658.56 ft (200.729 m), National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good, except those for winter period, which are fair. Flow affected by occasional regulation by Toledo Edison Co. dam on Auglaize River, 7 mi (11 km) upstream. Operation of hydroelectric plant there discontinued Jan. 10, 1963. Low flow slightly regulated by powerplant at Ft. Wayne, Indiana. Slight diversion 275 ft (83.8 m) upstream into Miami and Erie Canal through a 24 in (610 mm) conduit which bypasses station.

AVERAGE DISCHARGE.--48 years, 4,092 ft^3/s (115.9 m^3/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,100 ft^3/s (2,470 m^3/s) Feb. 16, 1950, gage height, 13.70 ft (4.176 m); maximum gage height, 13.77 ft (4.197 m) Feb. 11, 1959 (ice jam); minimum discharge, 2 ft^3/s (0.057 m^3/s) Sept. 3, 1925; minimum gage height, 1.09 ft (0.332 m) Sept. 26, 1928.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft^3/s (651 m^3/s) and maximums (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 26	0800	38500	1090	7.44	2.268
Mar. 10	2300	33300	943	6.91	2.106
Mar. 18	2400	28900	818	6.42	1.957
Mar. 23	0700	32800	929	6.86	2.091
June 4	2300	*46700	1320	*8.45	2.576

Minimum daily discharge, 358 ft^3/s (10.14 m^3/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	363	504	12400	8110	880	3790	20700	3370	2320	944	1200	1410
2	376	512	9240	6360	800	2680	17300	3030	10300	902	900	1450
3	358	656	7100	4800	760	2170	13200	2650	29000	830	690	1650
4	657	637	5100	3690	720	2080	16200	2280	42500	722	610	1970
5	621	600	3920	2980	700	2280	21000	2150	43100	1070	540	2590
6	477	666	3300	2690	660	2540	18800	1910	29600	1930	480	2250
7	459	606	3080	2480	640	3400	14800	1470	20700	2640	430	2170
8	442	585	2780	2000	660	7950	11900	1380	18100	2750	400	1640
9	448	600	2780	1310	660	16900	11300	1440	13700	1850	380	1410
10	471	710	2370	1230	660	25800	11900	1380	9810	2450	370	1210
11	468	873	2010	2110	677	28200	11400	1320	7350	2530	470	934
12	487	1050	1920	5910	680	20100	9870	1300	5940	2590	580	837
13	466	2650	2030	6510	636	14100	8960	1470	5060	5980	1040	678
14	450	2030	2010	6870	616	10100	10900	1630	4100	5660	1780	679
15	431	592	1830	5300	616	7600	19000	1690	3490	4130	2730	613
16	447	572	1670	4170	632	6260	20800	1640	4730	2700	4260	605
17	459	605	1450	4380	600	13400	17200	1590	5460	1980	5150	706
18	478	565	1180	5050	669	26000	12300	5460	4220	1520	4660	1340
19	536	528	1200	5110	697	27500	8820	11200	2690	1210	4380	2190
20	515	495	1050	4940	620	22500	7610	8480	2460	952	5930	1840
21	481	456	1090	4210	658	22300	6300	7020	2430	857	8990	1430
22	452	492	2520	3570	4220	29600	5150	5840	1900	1900	8500	1180
23	486	948	10900	3060	11800	32600	4020	4740	1540	2100	6480	1060
24	382	5550	24600	1950	15500	28600	3610	4130	1340	1700	5110	1000
25	681	11900	34900	1690	12300	25400	2910	3950	1340	1400	4490	1110
26	591	17800	37500	1620	6570	24100	2660	4820	1330	1000	3650	817
27	465	19200	31200	1620	6130	19700	2300	3830	1060	880	2410	825
28	436	20800	22400	1590	5030	15200	3460	2760	1020	980	1710	808
29	426	20800	17100	1430	5000	13200	4270	2180	979	1200	1260	707
30	403	15900	13200	1180	---	15400	3280	1810	856	1500	1030	660
31	427	---	9890	1100	---	19400	---	1620	---	1410	958	---
TOTAL	14639	129882	273720	109020	82791	490850	321940	99540	278425	60267	81568	37769
MEAN	472	4329	8830	3517	2855	15830	10730	3211	9281	1944	2631	1259
MAX	681	20800	37500	8110	15500	32600	21000	11200	43100	5980	8990	2590
MIN	358	456	1050	1100	600	2080	2300	1300	856	722	370	605

CAL YR 1979 TOTAL 1731830 MEAN 4745 MAX 50100 MIN 340
WTR YR 1980 TOTAL 1980411 MEAN 5411 MAX 43100 MIN 358

04193490 MAUMEE RIVER NEAR WATERVILLE, OH

LOCATION.--Lat 41°28'34", long 83°44'20", Lucas County, Hydrologic Unit 04100009, in Bowling Green water-treatment plant, 2.0 mi (3.2 km) upstream from discharge station at Waterville.

DRAINAGE AREA.--6,313 mi^2 (16,351 km^2).

PERIOD OF RECORD.--Water years 1950 to 1976 (published as Maumee River at Waterville). 1976 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1963 to current year.
pH: May 1963 to current year.
WATER TEMPERATURES: March 1950 to current year.
DISSOLVED OXYGEN: May 1963 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1963. Prior to June 1974 water-quality monitor located in water-treatment plant 2,500 ft (762 m) upstream from discharge station. Prior to May 1963 alcohol-actuated thermograph located at discharge station.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Prior to October 1976, records published as 04193500 Maumee River at Waterville, Ohio. See records of daily discharge for gaging station at Waterville (04193500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,260 micromhos Feb. 16, 1977; minimum, 213 micromhos Jan. 30, 1952.
pH: Maximum, 11.4 units Jan. 16, 1965; minimum, 5.0 units Nov. 24, 1968.
WATER TEMPERATURES: Maximum, 34.0°C July 1, 1963; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 20.0 mg/L Nov. 18-21, 1980; minimum, 0.3 mg/L Nov. 10, 1965.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 936 micromhos Feb. 19; minimum, 261 micromhos July 31.
pH: Maximum recorded, 9.2 units Oct. 5; minimum recorded, 7.0 units Mar. 12.
WATER TEMPERATURES: Maximum, 29.5°C July 20; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 20.0 mg/L Nov. 18-21; minimum recorded, 6.3 mg/L Sept. 2.

SPECIFIC CONDUCTANCE (MICROMMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	582	543	681	672	555	537	552	537	768	756	501	486
2	600	579	681	678	564	552	561	552	780	765	525	504
3	609	600	687	678	573	561	585	564	786	771	558	525
4	609	594	693	687	591	573	603	588	795	780	573	564
5	615	594	705	693	600	594	621	597	804	786	576	564
6	639	621	717	705	612	597	642	612	813	795	594	576
7	654	639	726	714	621	612	657	630	816	804	612	594
8	660	657	747	726	630	618	664	654	825	807	615	603
9	663	636	777	747	648	633	690	681	843	816	621	594
10	666	654	795	765	663	648	708	690	855	828	588	363
11	669	660	804	795	687	663	708	654	852	840	360	327
12	672	663	813	801	702	687	708	654	867	837	357	321
13	666	657	822	813	717	699	699	633	888	858	387	357
14	666	654	816	807	735	717	732	693	891	864	411	384
15	660	651	825	819	753	735	780	705	888	873	432	411
16	654	651	822	816	756	738	696	657	900	882	450	432
17	651	648	819	801	774	741	660	648	909	885	489	450
18	657	651	804	786	783	771	657	606	930	885	495	462
19	654	645	792	774	795	777	657	630	936	909	465	456
20	648	639	777	765	795	786	630	624	927	897	483	468
21	648	639	786	771	795	792	642	618	909	897	489	447
22	645	636	774	768	792	726	660	642	909	708	447	429
23	654	645	798	768	726	651	681	657	732	684	441	408
24	666	660	804	753	660	483	714	678	729	552	423	396
25	666	645	762	663	486	414	708	699	543	462	447	426
26	666	660	660	582	426	411	714	705	486	444	468	447
27	672	663	579	555	441	426	732	708	474	465	474	465
28	675	666	555	534	465	441	753	723	489	474	483	474
29	675	672	531	510	492	465	741	729	492	480	537	486
30	675	675	537	513	513	492	753	744	---	---	540	531
31	---	---	---	---	537	513	759	747	---	---	537	525
MONTH	675	543	825	510	795	411	780	537	936	444	621	321

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	528	504	651	642	645	639	633	624	348	291	531	465
2	513	501	642	624	663	636	651	633	408	348	483	438
3	528	513	621	573	660	480	648	633	423	411	519	489
4	519	510	624	606	471	351	645	636	432	426	543	516
5	516	477	642	624	348	339	645	609	447	435	555	534
6	489	465	651	642	381	348	627	558	462	447	558	531
7	489	477	654	633	417	384	579	561	471	459	573	561
8	498	483	642	594	453	387	621	558	474	462	567	555
9	519	498	630	618	459	447	621	609	486	474	561	552
10	528	522	630	609	465	456	651	621	489	480	555	531
11	531	525	636	597	462	447	645	582	480	477	531	480
12	564	528	621	597	501	462	591	582	501	483	483	471
13	582	567	621	609	519	501	627	588	564	501	480	471
14	579	504	636	612	537	519	648	624	543	519	498	480
15	504	483	645	636	549	525	636	510	591	537	525	498
16	498	432	639	600	582	525	525	504	597	582	549	528
17	471	456	633	594	588	549	555	525	603	564	558	546
18	468	456	687	630	579	561	573	555	615	567	576	561
19	501	471	684	672	588	564	567	525	642	621	603	576
20	528	501	681	597	588	564	522	501	621	573	609	600
21	540	528	693	660	606	588	504	495	579	444	612	597
22	558	540	660	642	600	582	504	453	489	456	609	600
23	573	552	690	639	585	570	513	453	510	468	621	609
24	573	564	657	654	585	576	573	447	513	504	639	618
25	588	573	660	645	588	582	438	375	504	483	654	639
26	603	591	654	621	594	585	393	366	480	468	663	636
27	612	600	627	621	597	552	414	396	468	453	636	627
28	636	603	627	621	579	546	423	414	456	453	627	618
29	639	627	633	624	603	579	507	423	465	459	621	612
30	645	639	636	627	624	597	543	279	477	465	618	612
31	---	---	642	624	---	---	288	261	486	474	---	---
MONTH	645	432	693	573	663	339	651	261	642	291	663	438
YEAR	936	261										

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.4	7.8	8.8	8.5					---	---	7.4	7.3
2	8.5	8.1	8.9	8.7					---	---	7.4	7.3
3	8.9	8.5	8.8	8.7					---	---	7.5	7.4
4	9.0	8.6	8.8	8.7					---	---	7.5	7.4
5	9.2	8.7	8.8	8.6					---	---	7.5	7.4
6	9.1	8.9	8.7	8.5					---	---	7.5	7.4
7	9.1	8.7	8.6	8.4					---	---	7.5	7.4
8	8.8	8.6	8.4	8.2					7.7	7.6	7.5	7.3
9	8.8	8.7	8.2	8.1					7.7	7.6	7.4	7.3
10	8.9	8.6	8.1	7.9					7.8	7.7	7.3	7.2
11	8.8	8.6	8.1	7.9					7.8	7.7	7.4	7.2
12	8.7	8.4	8.0	7.9					7.8	7.7	7.6	7.0
13	8.7	8.4	8.2	8.0					7.8	7.7	7.3	7.2
14	8.7	8.3	8.2	8.0					7.8	7.6	7.5	7.2
15	8.7	8.5	8.4	8.1					7.8	7.6	7.7	7.3
16	8.6	8.5	8.6	8.3					7.9	7.7	7.8	7.4
17	8.7	8.4	8.6	8.3					7.9	7.7	7.9	7.7
18	8.6	8.3	8.6	8.3					7.9	7.7	7.8	7.6
19	8.6	8.3	8.5	8.3					7.9	7.7	8.0	7.8
20	8.7	8.5	8.6	8.3					7.9	7.7	8.2	8.0
21	8.6	8.5	8.6	8.4					8.0	7.7	8.2	7.8
22	8.7	8.4	8.6	8.5					8.0	7.6	7.9	7.7
23	8.6	7.4	8.6	8.3					7.6	7.5	8.0	7.8
24	8.7	7.4	---	---					7.5	7.3	8.0	7.9
25	8.7	8.5	---	---					7.4	7.3	7.9	7.8
26	8.7	8.6	---	---					7.6	7.2	8.0	7.9
27	8.8	8.5	---	---					7.4	7.2	8.2	7.9
28	8.8	8.6	---	---					7.3	7.2	---	---
29	8.8	8.6	---	---					7.4	7.2	---	---
30	8.7	8.7	---	---					---	---	---	---
31	---	---	---	---					---	---	---	---
MONTH	9.2	7.4	8.9	7.9					8.0	7.2	8.2	7.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	8.4	8.2	8.4	8.3	8.9	8.7	7.9	7.8	8.6	8.0
2	---	---	8.3	8.2	8.3	8.1	8.8	8.5	7.9	7.9	8.2	8.0
3	7.6	7.4	8.3	8.1	8.1	7.8	8.9	8.7	8.0	7.9	8.3	8.2
4	7.5	7.4	8.6	8.2	7.8	7.8	9.0	8.6	8.1	8.0	8.3	8.2
5	7.6	7.4	8.6	8.4	7.8	7.7	8.9	8.7	8.2	8.1	8.3	8.2
6	7.6	7.5	8.6	8.4	7.7	7.6	8.8	8.4	8.5	8.1	8.1	8.0
7	7.6	7.6	8.8	8.4	7.7	7.6	8.4	8.2	8.6	8.2	8.3	8.1
8	7.8	7.6	8.8	8.6	7.9	7.7	8.6	8.2	8.6	8.3	8.3	8.2
9	7.8	7.7	8.9	8.6	8.0	7.9	8.5	8.4	8.6	8.4	8.3	8.2
10	7.8	7.7	8.8	8.5	8.1	7.9	8.7	8.4	8.8	8.5	8.4	8.1
11	7.8	7.7	8.9	8.5	8.1	7.9	8.6	8.3	8.7	8.5	8.4	8.2
12	7.9	7.8	8.8	8.5	8.0	8.0	8.4	8.2	8.6	8.4	8.3	8.2
13	7.9	7.8	8.7	8.5	8.1	8.0	8.3	8.3	8.5	8.3	8.3	8.1
14	7.9	7.5	8.9	8.4	8.1	8.0	8.4	8.3	8.5	8.3	8.6	8.2
15	7.5	7.4	8.8	8.6	8.2	8.1	8.3	8.0	8.5	8.3	8.6	8.4
16	7.5	7.4	8.9	8.6	8.3	8.2	8.1	8.0	8.4	8.3	8.8	8.4
17	7.6	7.4	8.7	8.5	8.3	8.2	8.3	8.1	8.6	8.4	8.7	8.5
18	7.7	7.5	8.5	8.1	8.3	8.2	8.4	8.3	8.6	8.4	8.7	8.6
19	7.8	7.6	8.3	8.0	8.4	8.3	8.5	8.3	8.3	8.2	8.7	8.5
20	7.8	7.7	8.2	8.0	8.5	8.4	8.7	8.3	8.1	8.1	8.7	8.6
21	7.9	7.7	8.1	8.0	8.5	8.4	8.8	8.5	8.0	7.8	8.7	8.6
22	7.9	7.8	8.1	7.9	8.7	8.5	8.6	8.2	7.9	7.8	8.7	8.5
23	8.0	7.8	8.1	7.9	8.9	8.6	8.2	8.1	8.1	7.9	8.7	8.5
24	8.1	8.0	8.1	8.0	8.7	8.4	8.3	7.9	8.1	8.0	8.8	8.6
25	8.3	8.1	8.2	8.0	8.5	8.4	7.9	7.9	8.1	8.1	8.8	8.7
26	8.4	8.2	8.2	8.1	8.9	8.5	7.9	7.9	8.1	8.1	8.8	8.6
27	8.4	8.3	8.3	8.2	8.9	8.7	8.0	7.9	8.1	8.1	8.7	8.7
28	8.4	8.2	8.4	8.2	9.0	8.7	8.1	7.9	8.2	8.0	8.8	8.7
29	8.2	8.1	8.4	8.2	8.9	8.7	8.1	8.0	8.2	8.1	8.8	8.6
30	8.2	8.2	8.4	8.2	9.1	8.7	8.1	7.9	8.5	8.2	8.7	8.6
31	---	---	8.4	8.3	---	---	7.9	7.8	8.6	8.4	---	---
MONTH	8.4	7.4	8.9	7.9	9.1	7.6	9.0	7.8	8.8	7.8	8.8	8.0
YEAR	9.2	7.0										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	19.5	11.0	10.5	3.5	3.0	2.5	2.5	.5	.0	.5	.5
2	20.0	19.5	10.5	9.5	3.0	2.0	2.5	2.0	.5	.5	.5	.5
3	19.5	18.5	9.5	8.5	2.0	1.0	2.0	2.0	.5	.5	.5	.5
4	18.5	18.0	9.5	8.0	1.5	1.0	2.0	1.0	.5	.5	.5	.5
5	17.5	16.0	9.0	8.0	2.5	1.5	1.0	.5	.5	.0	.5	.5
6	15.5	15.0	8.5	8.0	2.0	2.0	.5	.5	.5	.5	1.0	.5
7	14.5	13.0	8.0	7.0	2.5	2.0	.5	.5	.5	.5	1.0	.5
8	13.0	12.5	7.0	6.5	2.5	1.5	.5	.5	.5	.5	1.0	.5
9	13.0	12.5	6.5	6.0	1.5	1.0	.5	.5	.5	.5	1.0	.5
10	13.0	12.0	6.5	6.0	2.0	1.0	.5	.5	.5	.5	1.0	.5
11	11.5	10.5	6.5	5.5	4.0	1.5	.5	.5	.5	.0	1.0	.5
12	10.5	9.5	6.0	5.0	4.5	3.5	.5	.5	.5	.0	1.0	.5
13	9.5	9.0	5.5	5.0	3.5	2.5	.5	.5	.5	.0	1.0	.5
14	10.0	8.0	5.5	5.0	2.5	1.5	.5	.5	.5	.0	2.0	.5
15	10.0	8.5	5.5	5.0	2.0	1.0	.5	.5	.0	.0	2.5	1.0
16	10.5	9.5	5.5	4.5	2.0	.5	.5	.5	.0	.0	2.5	1.0
17	11.0	10.5	6.0	4.5	.5	.5	1.5	.5	.0	.0	3.5	2.0
18	11.5	11.0	7.0	5.5	.5	.0	1.5	1.5	.5	.0	4.0	2.5
19	14.0	12.0	7.5	6.5	.5	.0	2.0	1.5	.5	.0	4.5	3.5
20	15.5	14.0	8.5	7.0	.5	.5	1.5	1.0	.5	.0	5.0	4.0
21	17.5	15.5	8.5	8.0	.5	.5	1.0	.5	.5	.0	5.5	4.0
22	18.5	17.0	9.5	8.5	2.5	.5	1.5	1.0	.5	.5	4.5	3.5
23	18.0	13.5	10.0	9.5	4.5	2.5	1.0	.5	.5	.5	4.5	4.0
24	13.5	11.0	9.5	8.0	6.0	4.5	.5	.5	.5	.5	5.0	4.5
25	11.0	9.5	8.0	7.5	6.0	6.0	.5	.5	.5	.0	4.5	4.0
26	9.5	8.0	8.0	7.5	6.0	5.0	.5	.5	.5	.5	4.5	4.0
27	8.5	8.0	7.5	7.5	5.0	4.5	.5	.5	.5	.5	5.5	4.0
28	9.5	8.5	7.5	6.0	4.5	4.0	.5	.5	.5	.5	5.0	4.5
29	10.0	9.0	6.0	4.5	4.0	3.5	.5	.0	.5	.5	5.0	5.0
30	10.0	9.5	4.5	3.5	3.5	3.0	.5	.0	---	---	5.5	4.5
31	---	---	---	---	3.0	3.0	.5	.5	---	---	5.5	5.0
MONTH	20.5	8.0	11.0	3.5	6.0	.0	2.5	.0	.5	.0	5.5	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.0	5.5	14.0	11.5	24.0	21.5	24.0	23.0	26.0	23.5	26.5	25.5
2	6.5	5.5	15.0	13.0	22.5	21.5	25.0	23.5	26.0	24.5	25.5	24.5
3	6.5	5.5	16.5	13.5	22.0	20.5	26.5	24.5	26.0	24.0	25.0	24.0
4	6.0	5.5	18.5	15.5	21.0	20.0	26.0	24.5	26.5	25.0	25.0	24.0
5	7.0	5.0	19.0	17.0	21.0	20.0	26.0	24.5	27.5	26.0	25.5	24.0
6	8.0	6.5	19.0	17.5	22.0	20.5	25.5	22.5	27.0	25.5	25.5	23.5
7	8.0	7.5	18.5	16.0	22.0	21.5	24.0	22.5	29.0	26.0	25.0	23.0
8	9.5	8.0	16.0	14.0	21.5	19.5	27.0	23.5	29.0	27.5	24.5	22.5
9	9.0	8.0	14.5	12.5	19.5	19.0	26.5	24.5	29.0	28.0	24.5	23.0
10	8.0	7.5	15.0	14.0	20.0	18.0	27.0	24.0	28.5	26.5	23.0	21.0
11	9.0	7.5	17.5	14.5	20.5	17.5	28.0	25.5	27.0	26.0	22.0	21.0
12	9.0	8.5	17.0	16.5	22.0	18.5	26.5	24.0	26.5	25.0	21.5	21.0
13	9.0	7.5	18.0	15.5	22.5	19.5	26.5	23.0	26.0	24.5	22.0	21.0
14	8.0	6.0	18.5	16.5	22.0	20.0	27.0	24.0	26.0	25.0	23.5	21.5
15	6.0	5.5	17.5	16.0	21.5	19.5	28.5	25.0	26.0	25.0	22.0	20.5
16	7.0	5.0	18.0	16.0	21.0	18.0	29.0	27.0	25.0	23.5	20.5	20.0
17	7.5	5.5	17.5	16.0	21.0	18.0	28.5	27.5	24.0	22.0	20.0	19.0
18	9.0	6.5	17.0	15.0	22.5	18.5	28.0	27.0	23.5	21.5	20.0	18.0
19	11.5	8.5	17.0	15.5	22.0	20.0	28.5	27.0	23.5	22.0	21.0	18.5
20	13.0	10.0	18.0	15.5	21.5	18.5	29.5	27.0	24.0	22.0	21.5	20.5
21	13.5	10.5	19.0	16.5	22.5	19.5	28.5	27.5	24.0	23.0	23.5	21.0
22	15.5	12.0	20.5	17.5	24.0	21.5	27.5	25.0	23.5	21.5	24.5	22.5
23	16.0	13.5	20.0	19.0	24.5	22.5	26.0	24.0	24.5	22.0	24.0	21.5
24	15.0	13.0	21.5	19.0	24.5	24.0	26.5	24.5	25.5	22.5	21.5	20.0
25	14.5	11.5	22.5	20.5	25.5	23.5	26.0	24.0	25.5	23.0	20.0	19.5
26	15.0	12.5	21.0	18.5	27.5	25.0	27.0	25.0	26.0	24.0	19.5	18.0
27	14.5	12.5	22.0	19.0	28.0	26.0	26.5	25.5	26.5	25.0	18.0	17.0
28	12.5	11.5	23.0	20.5	27.5	26.5	25.5	24.5	27.0	25.5	18.0	17.0
29	13.0	11.0	24.0	22.0	27.5	26.0	26.0	23.5	27.0	26.0	18.5	17.0
30	12.5	12.0	24.5	23.0	26.0	23.5	25.5	23.5	27.0	26.0	20.0	18.0
31	---	---	24.5	22.5	---	---	25.0	22.5	26.5	25.5	---	---
MONTH	16.0	5.0	24.5	11.5	28.0	17.5	29.5	22.5	29.0	21.5	26.5	17.0
YEAR	29.5	.0										

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	13.0	13.1	12.4	12.3	15.6	15.3	14.1	13.9
2	---	---	---	---	13.9	13.5	12.6	12.4	15.7	15.4	14.2	14.0
3	---	---	---	---	14.2	14.0	12.8	12.6	15.9	15.5	14.3	14.1
4	---	---	---	---	14.5	14.4	13.0	12.7	16.0	15.7	14.3	13.9
5	---	---	---	---	14.5	13.5	13.0	12.8	16.3	15.9	14.1	13.8
6	---	---	---	---	13.5	13.3	13.1	12.9	16.4	15.9	14.5	14.0
7	---	---	---	---	13.3	13.1	13.2	12.6	16.7	16.2	14.5	14.0
8	---	---	---	---	13.3	13.1	13.4	13.1	17.3	16.7	14.3	14.0
9	---	---	---	---	13.6	13.3	13.3	12.9	17.5	16.5	14.3	14.1
10	---	---	12.5	11.7	13.4	13.3	13.3	13.2	17.4	16.3	14.1	13.5
11	14.6	13.5	13.2	11.7	13.3	12.9	13.3	12.5	17.3	16.3	14.1	13.8
12	13.1	11.1	14.0	12.3	12.9	12.4	13.1	12.6	17.8	16.8	14.3	14.1
13	14.0	11.2	18.8	13.7	12.9	12.3	12.9	12.7	18.1	17.2	14.5	14.4
14	15.3	11.8	18.6	12.3	12.8	12.5	13.0	12.8	18.4	16.8	14.8	14.5
15	15.5	13.1	13.6	12.0	12.9	12.7	13.0	11.8	18.3	16.3	14.8	14.6
16	15.1	13.8	16.8	13.0	12.9	12.5	12.9	11.5	17.9	16.1	14.8	14.5
17	14.9	12.9	17.7	14.7	13.0	12.5	12.9	12.1	18.2	16.3	14.5	13.7
18	13.4	10.5	20.0	16.0	13.2	13.1	12.9	12.6	19.1	16.9	13.9	13.7
19	12.1	10.5	20.0	17.1	13.3	12.8	12.7	12.3	19.4	17.3	14.1	13.9
20	11.4	10.3	20.0	17.3	---	---	12.9	12.1	19.7	17.3	14.2	13.8
21	10.9	9.7	20.0	18.2	---	---	12.5	11.9	19.6	17.3	14.0	13.9
22	10.9	8.9	18.0	15.6	---	---	12.5	11.9	18.1	14.2	13.6	13.4
23	10.2	8.9	15.2	10.9	---	---	14.0	11.9	14.2	14.0	13.3	13.2
24	12.5	10.8	12.2	11.1	---	---	14.2	14.0	14.0	13.9	12.9	12.9
25	---	---	12.0	11.3	---	---	14.3	14.0	13.9	13.5	12.5	12.4
26	---	---	11.4	11.0	---	---	14.4	14.2	13.8	13.7	12.4	12.1
27	---	---	11.1	11.0	11.5	10.9	14.6	14.5	13.8	13.6	12.1	11.9
28	---	---	11.5	11.3	11.7	11.5	14.9	14.5	13.8	13.7	11.5	11.4
29	---	---	12.3	11.7	12.0	11.8	15.0	14.8	13.9	13.8	11.2	10.9
30	---	---	13.0	12.5	12.3	12.1	15.2	15.0	---	---	11.0	10.8
31	---	---	---	---	12.4	12.3	15.5	15.1	---	---	11.0	10.7
MONTH	15.5	8.9	20.0	10.9	14.5	10.9	15.5	11.5	19.7	13.5	14.8	10.7

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.7	10.6	12.6	10.5	8.8	7.6	9.9	8.2	7.4	6.6	8.6	6.4
2	11.7	11.6	12.1	10.2	8.1	7.6	10.2	7.7	7.4	6.8	7.1	6.3
3	11.8	11.6	13.1	10.3	7.8	6.9	12.3	7.9	7.5	6.7	7.8	6.8
4	11.6	11.4	14.4	10.3	6.9	6.6	12.0	7.4	7.6	6.7	7.8	7.0
5	11.6	11.4	13.3	10.8	7.3	6.9	10.5	7.9	7.9	6.9	7.9	6.9
6	11.5	11.3	12.7	9.8	7.5	7.3	8.5	7.4	9.5	6.9	7.9	6.9
7	11.4	11.3	13.9	9.7	7.4	7.2	7.5	7.1	10.5	7.4	8.6	7.2
8	11.3	11.1	13.6	11.2	7.9	7.4	9.3	7.2	10.1	7.6	9.6	7.5
9	11.1	11.0	15.3	11.2	8.0	7.8	8.5	7.2	10.0	7.3	9.5	7.6
10	11.3	11.0	14.9	12.3	8.2	8.1	10.5	7.4	11.0	7.4	10.3	7.5
11	11.4	11.1	15.8	11.4	8.4	8.1	8.9	7.2	10.0	7.6	9.6	7.9
12	11.2	11.0	14.8	12.1	8.4	8.2	7.6	6.9	10.4	7.5	9.3	8.2
13	11.5	11.2	12.7	9.8	8.5	8.2	7.6	7.2	8.7	7.5	9.3	7.8
14	11.6	11.2	12.3	8.6	8.4	8.2	7.8	7.2	---	---	11.6	7.8
15	11.5	11.2	12.8	9.2	8.7	8.2	7.4	6.8	---	---	9.7	8.1
16	11.7	11.5	13.2	10.0	8.9	8.5	6.9	6.6	---	---	11.3	8.4
17	11.9	11.6	13.2	9.0	8.8	8.5	7.7	6.6	---	---	11.8	9.1
18	11.7	11.5	9.6	8.4	8.9	8.4	8.0	6.5	---	---	11.9	9.7
19	11.4	11.0	9.7	8.7	8.8	8.3	8.6	7.1	---	---	11.6	8.6
20	11.0	10.6	9.2	8.3	9.6	8.4	9.7	6.9	---	---	11.1	9.3
21	10.9	10.4	9.0	8.4	9.9	8.7	10.2	7.7	7.1	6.9	10.7	8.5
22	10.5	9.9	9.1	8.1	11.7	8.8	8.0	7.1	7.0	6.9	9.8	7.8
23	10.4	9.7	8.8	8.1	13.2	9.3	7.4	6.5	7.5	6.9	10.7	7.5
24	10.5	9.7	8.8	7.9	11.4	9.0	7.8	7.0	7.8	7.0	11.3	8.3
25	11.5	10.0	8.9	7.6	10.0	8.4	7.1	6.9	7.4	7.0	11.3	9.3
26	12.3	10.6	8.8	7.9	12.6	8.5	7.1	6.4	7.4	7.0	12.6	8.8
27	11.9	10.6	9.6	8.2	13.1	8.9	7.0	6.8	7.6	6.9	11.5	10.2
28	11.6	10.6	10.3	8.3	13.0	9.0	7.4	6.4	7.8	6.9	12.2	10.1
29	11.6	10.5	10.0	8.2	12.1	8.8	7.5	6.9	7.9	6.9	11.6	9.8
30	11.4	10.5	9.4	7.7	12.9	8.2	7.5	6.7	9.0	6.9	11.6	9.9
31	---	---	9.1	7.4	---	---	7.2	6.5	8.8	7.2	---	---
MONTH	12.3	9.7	15.8	7.4	13.2	6.6	12.3	6.4	11.0	6.6	12.6	6.3
YEAR	20.0	6.3										

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
NOV										
29...	1500	25700	532	7.8	--	60	27	9.5	271	.37
29...	1900	24600	520	7.8	--	61	27	9.5	308	.42
29...	2300	23500	526	7.7	--	61	27	9.6	306	.42
30...	0300	22300	530	7.8	--	61	27	9.8	297	.40
30...	0700	21000	534	7.9	--	61	27	9.8	317	.43
30...	1100	20000	542	7.7	--	64	28	9.6	290	.39
30...	1500	18900	550	7.7	--	65	28	9.7	293	.40
30...	1900	17400	554	7.8	--	65	28	9.6	288	.39
30...	2300	16000	553	7.9	--	68	29	9.7	356	.48
DEC										
01...	0300	14900	565	7.7	--	67	28	9.6	371	.50
01...	0700	14500	570	7.8	--	67	29	9.9	361	.49
01...	1100	14300	573	7.9	--	69	29	9.7	350	.48
05...	1800	4040	645	7.9	--	80	31	9.7	370	.50
23...	0600	7300	713	8.0	36	102	37	6.9	414	.56
23...	1200	10800	653	7.9	42	83	33	6.8	456	.62
23...	1800	14000	662	7.8	37	82	32	7.0	438	.60
23...	2400	16300	658	7.9	38	82	33	7.0	489	.67
24...	0600	19000	666	8.0	32	83	33	6.9	461	.63
24...	1200	25500	601	7.9	54	74	31	6.7	416	.57
24...	1800	32500	546	7.8	62	68	28	6.4	395	.54
24...	2400	39100	498	7.7	62	66	25	6.4	294	.40
25...	0600	40500	481	7.6	71	62	25	6.5	350	.48
25...	1200	42400	470	7.6	66	61	23	6.4	333	.45
25...	1800	42600	448	7.5	69	44	21	6.4	326	.44
25...	2400	42700	431	7.5	68	43	20	6.4	307	.42
28...	1400	25200	453	7.5	51	50	24	6.7	350	.48
FEB										
23...	0200	7300	723	8.0	327	110	48	5.1	428	.58
23...	0800	9600	734	8.1	86	111	51	5.5	451	.61
23...	1400	11200	715	8.1	103	107	51	5.5	399	.54
23...	2000	12700	734	8.1	105	106	53	5.3	386	.52
24...	0200	13900	749	7.9	83	110	52	5.3	397	.54
24...	0800	15400	721	7.9	94	113	50	4.8	392	.53
24...	1400	16400	723	7.9	103	121	51	4.5	367	.50
24...	2000	16400	624	8.0	116	101	45	4.2	330	.45
25...	0200	15600	556	7.9	98	84	41	4.4	274	.37
25...	0800	15000	544	7.8	125	76	43	4.7	264	.36
25...	1400	14400	518	7.6	127	68	39	4.4	277	.38
25...	2000	13000	504	7.4	117	66	37	4.5	254	.35
MAR										
05...	1700	3180	553	7.6	84	76	36	5.1	316	.43

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV										
29...	18800	240	8.7	.02	2.7	2.7	12	51	.539	7.7
29...	20500	235	8.8	.02	2.8	2.7	12	52	.531	5.7
29...	19400	214	8.6	.01	2.5	2.5	11	49	.534	5.2
30...	17900	218	8.7	.03	2.3	2.3	11	49	.536	5.7
30...	18000	209	8.8	.01	2.3	2.3	11	50	.526	6.1
30...	15700	195	8.9	.03	2.5	2.5	11	51	.505	6.2
30...	15000	166	9.0	.03	2.5	2.5	12	51	.481	12
30...	13500	159	8.6	.04	2.2	2.2	11	48	.470	9.5
30...	15400	148	8.9	.02	2.3	2.2	11	50	.444	9.4
DEC										
01...	14900	135	8.8	.01	.71	.72	9.6	42	.419	9.4
01...	14100	133	8.7	.01	2.3	2.2	11	49	.414	9.2
01...	13500	123	8.8	.03	2.1	2.0	11	49	.390	8.6
05...	4040	56	7.5	.11	2.1	2.2	9.8	44	.292	7.9
23...	8160	137	7.6	.04	1.6	1.6	9.3	41	.290	6.4
23...	13300	196	8.8	.02	1.5	1.5	10	46	.362	13
23...	16600	145	9.0	--	--	1.7	11	48	.336	10
23...	21500	131	8.8	.02	1.4	1.4	10	45	.325	9.1
24...	23600	148	8.8	.00	1.5	1.5	10	46	.336	9.5
24...	28600	357	8.3	.02	2.4	2.3	11	48	.603	10
24...	34700	375	8.1	.02	2.4	2.4	11	47	.652	11
24...	31000	369	8.5	.02	2.9	2.9	11	51	.720	11
25...	38300	414	8.6	.01	2.5	2.5	11	50	.779	12
25...	38100	399	8.3	--	--	2.6	11	49	.777	12
25...	37500	409	8.1	.01	2.6	2.6	11	48	.797	13
25...	35400	407	8.0	.01	1.2	1.2	9.2	41	.803	19
28...	23800	127	8.1	.08	1.7	1.8	10	44	.470	14
FEB										
23...	8440	101	6.1	.01	1.6	1.6	7.8	35	.417	15
23...	11800	118	5.7	.00	1.6	1.5	7.3	32	.407	9.4
23...	12100	145	5.8	.00	1.5	1.4	7.3	32	.456	9.3
23...	13200	147	5.7	.01	1.5	1.4	7.3	32	.463	9.4
24...	14900	119	5.8	.00	1.3	1.3	7.2	32	.424	8.8
24...	16300	142	6.0	--	--	1.5	7.5	33	.406	9.1
24...	16300	183	6.1	--	--	2.1	8.2	36	.573	8.8
24...	14600	217	6.0	.00	2.2	2.2	8.3	37	.596	9.3
25...	11500	227	6.5	.00	3.3	3.3	9.9	44	.607	9.9
25...	10700	248	7.0	.00	2.9	2.9	9.9	44	.700	10
25...	10800	248	6.5	.00	2.5	2.4	9.8	40	.670	10
25...	8920	233	6.5	.00	2.4	2.4	8.9	39	.614	10
MAR										
05...	2710	34	5.9	1.0	1.9	2.9	8.8	39	.265	10

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
MAR									
18...	2300	33800	545	7.9	201	4.3	244	.33	22300
19...	0500	34200	475	7.8	210	4.5	210	.29	19400
19...	1100	33600	464	7.6	176	4.6	194	.26	17600
19...	1700	32400	464	7.7	176	4.7	231	.31	20200
19...	2300	30900	467	7.8	184	4.7	232	.32	19400
20...	0500	29500	480	7.8	161	4.7	233	.32	18600
20...	1100	28000	478	7.8	165	4.6	281	.38	21200
20...	2300	25200	486	7.5	145	4.7	278	.38	18900
21...	0500	24400	495	7.9	151	4.8	260	.35	17100
21...	1100	25800	486	7.7	175	3.9	309	.42	21500
21...	1700	29700	483	7.3	174	4.8	314	.43	25200
21...	2300	31800	476	7.4	189	5.1	--	--	--
22...	0500	33300	475	7.4	196	5.1	312	.42	28100
22...	1100	34800	458	7.7	177	5.1	279	.38	26200
22...	1700	35900	461	7.6	173	5.1	287	.39	27800
22...	2300	35600	465	7.5	168	5.0	304	.41	29200
23...	0500	36300	471	7.6	160	5.0	313	.43	30400
23...	1100	35900	464	7.7	183	5.0	310	.42	30000
23...	1700	35700	454	7.6	173	4.9	300	.41	28900
23...	2300	35500	444	7.5	191	4.8	269	.37	25800
24...	0500	34700	431	7.5	182	4.7	280	.38	26200
28...	0915	19600	505	7.5	110	5.1	332	.45	17600
MAY									
18...	1330	7610	660	7.7	--	3.2	--	--	--
18...	1930	9120	676	8.0	--	3.2	--	--	--
18...	2130	9510	693	7.8	--	4.2	--	--	--
19...	0130	10300	689	7.9	--	5.1	--	--	--
19...	0530	11400	678	8.0	--	5.7	--	--	--
19...	0930	12200	679	7.4	--	5.0	--	--	--
19...	1330	12500	691	7.8	--	4.7	--	--	--
19...	1730	13000	689	8.0	--	4.7	--	--	--
19...	2130	14200	694	7.9	--	4.7	--	--	--
20...	0130	14600	689	8.1	--	4.5	--	--	--
20...	0530	13800	646	7.7	--	4.6	--	--	--
20...	0930	12900	613	8.0	--	4.7	--	--	--
20...	1400	11800	623	7.6	--	4.6	--	--	--

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR									
18...	402	8.4	.00	3.6	3.5	12	53	.703	15
19...	514	8.5	.00	3.1	3.1	12	52	.741	11
19...	441	8.4	.00	3.0	2.9	11	51	.700	11
19...	440	8.5	.00	2.8	2.9	11	50	.695	11
19...	383	8.5	.00	2.7	2.6	11	49	.648	12
20...	347	8.0	.00	2.6	2.5	11	47	.631	11
20...	327	8.2	.00	2.5	2.5	11	48	.610	10
20...	302	8.3	.00	2.5	2.4	11	48	.576	11
21...	270	8.4	.00	2.6	2.6	11	49	.565	10
21...	501	8.7	.00	2.6	2.5	11	50	.752	11
21...	438	8.9	.00	2.3	2.2	11	50	.708	12
21...	415	9.2	.00	2.4	2.4	12	52	.708	11
22...	420	9.3	.00	2.6	2.6	12	53	.716	15
22...	413	8.9	.00	.99	.99	10	44	.690	12
22...	373	8.8	.00	2.2	2.1	11	48	.654	13
22...	370	8.5	.00	2.4	2.4	11	48	.665	11
23...	350	8.5	.00	2.5	2.5	11	49	.675	11
23...	445	8.1	.00	2.7	2.6	11	48	.739	12
23...	477	7.8	.00	2.4	2.4	10	45	.762	14
23...	515	7.6	.00	2.8	2.7	10	46	.819	11
24...	523	7.4	.00	2.6	2.5	10	45	.848	11
24...	220	7.1	.00	1.7	1.7	8.9	39	.467	10
MAY									
16...	139	9.5	.02	1.9	1.9	11	51	.208	--
16...	85	9.9	.03	1.7	1.7	12	52	.237	--
16...	90	12	.03	1.8	1.8	14	64	.266	--
19...	103	14	.02	2.1	2.0	16	72	.303	--
19...	126	15	.04	2.1	2.1	17	76	.351	--
19...	102	14	.03	2.1	2.1	16	72	.339	--
19...	90	12	.03	1.7	1.7	14	61	.292	--
19...	86	11	.02	1.8	1.8	13	57	.288	--
19...	71	10	.02	1.6	1.6	12	51	.276	--
20...	81	9.7	.03	1.6	1.6	11	50	.250	--
20...	87	8.4	.01	1.7	1.7	10	45	.270	--
20...	93	8.2	.03	1.7	1.7	10	44	.293	--
20...	78	8.0	.03	1.7	1.6	9.7	43	.282	--

04193500 MAUMEE RIVER AT WATERVILLE, OH

(National stream quality accounting network station)

LOCATION.--Lat 41°30'00", long 83°42'46", Lucas County, Hydrologic Unit 04100009, on downstream side of first pier from left end of bridge on State Highway 64 at Waterville, 3 mi (5 km) downstream from Tontogany Creek, and 20.7 mi (33.3 km) upstream from mouth.

DRAINAGE AREA.--6,330 mi² (16,395 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to December 1901, August 1921 to December 1935, March 1939 to current year.

REVISED RECORDS.--WSP 894: 1930(M). WSP 1084: 1946. WSP 1387: 1900(M), 1922-23, 1933. WDR OH-68-1: 1967. WDR OH-70-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 595.71 ft (181.572 m) National Geodetic Vertical Datum of 1929. Nov. 19, 1898, to Dec. 31, 1901, Aug. 26, 1921 to July 31, 1930, nonrecording gage, Aug. 1, 1930 to Dec. 31, 1935, water-stage recorder, Mar. 14, 1939 to Mar. 12, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow slightly regulated by powerplants upstream from station. Small diversion upstream from gage into Portage River basin (see station 04195500).

AVERAGE DISCHARGE.--55 years (1921-35, 1939-80) 4,844 ft³/s (137.2 m³/s), 10.39 in/yr (264 mm/yr): includes flow in Miami and Erie Canal at Waterville 1922-29; canal was abandoned in 1929 and was filled in prior to March 1939.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s (2,662 m³/s) Feb. 16, 1950, gage height, 14.52 ft (4.426 m); maximum gage height, 16.17 ft (4.929 m) Feb. 12, 1959 (ice jam); practically no flow at times prior to June 30, 1929, when entire river flow was being diverted by canal; minimum daily since canal was abandoned, 26 ft³/s (0.74 m³/s) Oct. 24, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.9 ft (6.07 m), from information by local resident, estimated discharge, 180,000 ft³/s (5,100 m³/s), from rating curve extended above 94,000 ft³/s (2,662 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46,100 ft³/s (1,306 m³/s) June 5, gage height, 10.79 ft (3,289 m); minimum daily, 273 ft³/s (7.73 m³/s) Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393	546	14200	8820	1200	5000	22400	4530	2280	933	4970	2200
2	393	574	10900	7420	1100	3500	19400	4100	5910	1050	3810	2150
3	453	532	8420	5770	1000	2900	15300	3690	25800	1010	2880	1690
4	429	633	6430	4590	920	2600	16900	3220	38800	989	1810	2030
5	741	610	4970	3690	860	2600	21800	2910	44400	1880	1590	3130
6	574	663	4100	3330	820	3100	20200	2560	33900	4160	1430	2990
7	610	709	4100	3100	780	3500	16400	2380	22600	3510	1250	2480
8	347	648	3220	2000	780	6010	13200	1760	21900	3510	1090	2100
9	466	574	3270	1400	780	15000	12200	1980	17500	2830	914	1760
10	505	825	2910	1200	780	24000	13100	1810	11500	3330	951	1500
11	404	896	2670	2000	740	35000	12500	1910	8740	3480	989	1230
12	519	1010	2330	5000	700	21900	11100	1690	6790	2800	1570	1030
13	546	1230	2260	7000	700	18700	9760	2030	5810	5500	1470	951
14	393	3480	2480	7950	700	13400	12000	2130	4940	6790	1690	878
15	404	1760	2230	6940	700	9670	21100	2180	4380	5500	2670	757
16	393	600	2150	5330	700	8460	22900	2000	4850	3810	3720	741
17	441	620	2230	4970	700	13100	19100	2380	6830	2640	5200	878
18	416	580	2150	5740	740	29700	14800	6510	5770	1930	5740	970
19	519	560	1570	5940	1170	32200	10000	12400	3980	1640	5300	1830
20	532	560	1520	5840	896	26600	8620	12400	3050	1270	5070	2150
21	505	492	1360	5270	878	25800	7350	8380	2410	1090	9510	1760
22	416	603	2180	4590	2510	32600	6190	7310	2610	3510	10300	1360
23	633	914	10200	3980	10200	33800	5010	5810	1980	9800	8030	1230
24	314	6360	24300	2400	15300	31500	4440	5070	1710	6650	6080	1050
25	273	13600	41000	2000	14400	26500	3660	4560	1610	3870	5100	1190
26	633	20800	41700	1900	11900	26200	3220	5240	1640	2410	4350	1090
27	532	23000	34900	1800	8820	22000	2940	5040	1320	2030	3270	842
28	574	24200	25400	1700	6790	17600	4070	3660	1270	2030	2230	842
29	358	24900	18700	1600	6470	14900	6900	2830	1270	7950	1690	825
30	347	19400	14700	1400	---	16600	4850	2380	878	9550	1360	741
31	429	---	11400	1200	---	20200	---	2330	---	7690	1270	---
TOTAL	14500	151887	309970	125870	94034	546640	361410	127180	296928	115142	107304	44375
MEAN	468	5063	9999	4060	3243	17630	12050	4103	9898	3714	3461	1479
MAX	741	24900	41700	8820	15300	35000	22900	12400	44400	9800	10300	3130
MIN	273	492	1360	1200	700	2600	2940	1690	878	933	914	741
CFSM	.07	.80	1.58	.64	.51	2.79	1.90	.65	1.56	.59	.55	.23
IN.	.09	.89	1.82	.74	.55	3.21	2.12	.75	1.74	.68	.63	.26

CAL YR 1979 TOTAL 2004080 MEAN 5490 MAX 53400 MIN 273 CFSM .87 IN 11.78
WTR YR 1980 TOTAL 2295240 MEAN 6271 MAX 44400 MIN 273 CFSM .99 IN 13.49

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1950 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: April 1950 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,240 mg/L Mar. 26, 1954; minimum daily mean, 1 mg/L on many days during 1953, 1955, and 1963.
SEDIMENT LOADS: Maximum daily, 208,000 tons (189,000 tonnes) Feb. 12, 1959; minimum daily, 0.26 ton (0.24 tonne) Sept. 18, 1955.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 870 mg/L June 5; minimum daily mean, 7 mg/L on Jan. 31.
SEDIMENT LOADS: Maximum daily, 104,000 tons (94,300 tonnes) June 5, minimum daily, 14 tons (12.7 tonnes) Oct. 24.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 16...	1400	416	660	8.6	13.0	15	8.8	83	16	K2	260
NOV 07...	1530	618	700	9.2	7.5	8.0	11.8	98	38	K12	480
DEC 05...	1515	5040	600	7.9	3.0	70	14.4	110	68	640	180
JAN 03...	1615	5600	585	7.7	2.0	50	14.1	100	40	250	240
FEB 05...	1300	860	800	8.8	.5	5.5	15.8	110	29	K4	K4
MAR 03...	1400	2900	520	7.9	.0	25	14.6	100	110	40	64
APR 02...	1145	20000	510	7.8	6.0	3.2	10.2	82	44	2400	630
MAY 07...	1500	3450	670	8.6	17.5	6.5	14.0	140	26	18	240
JUN 05...	1530	44300	320	7.4	21.0	22	6.5	72	79	2200	4300
JUL 01...	1500	1010	620	8.7	26.0	24	13.8	170	30	68	82
AUG 12...	1315	1690	550	8.4	27.0	70	7.1	88	41	92	88
SEP 12...	1130	1010	490	8.4	22.5	3.1	11.5	130	33	52	140

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT 16...	240	78	59	22	33	5.5	160	100	48	.5	.2
NOV 07...	260	100	63	26	52	6.1	160	110	62	.6	.1
DEC 05...	250	110	72	18	11	4.2	140	61	34	.2	8.5
JAN 03...	250	110	72	17	9.7	4.1	140	62	29	.2	7.4
FEB 05...	340	130	95	26	21	3.2	210	110	46	.3	7.2
MAR 03...	210	82	60	15	14	3.9	130	58	31	.3	5.8
APR 02...	210	97	58	15	8.9	2.7	110	49	22	.2	6.4
MAY 07...	300	120	84	22	19	2.9	180	98	37	.4	2.7
JUN 05...	130	59	38	8.8	5.1	3.1	72	25	10	.3	6.3
JUL 01...	230	57	61	18	17	4.0	170	71	31	.3	3.8
AUG 12...	210	120	53	18	21	3.5	84	97	44	.2	11
SEP 12...	220	72	61	17	14	4.9	150	44	22	.4	6.4

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO-PLANK-TON, TOTAL (CELLS PER ML)	PERI-PHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 16...	516	369	1.1	1.3	2.3	10	.160	--	--	10.5
NOV 07...	449	419	1.2	1.5	2.2	9.9	.150	12	59000	7.40
DEC 05...	357	328	1.4	1.6	9.7	43	.310	10	--	--
JAN 03...	366	308	1.2	1.3	52	230	.220	--	--	--
FEB 05...	481	456	.66	1.0	8.3	37	.190	3.9	--	2.13
MAR 03...	322	285	2.0	3.0	7.2	32	.290	8.9	390	--
APR 02...	327	248	1.6	1.7	7.0	31	.300	--	--	--
MAY 07...	446	391	1.2	1.3	5.0	22	.140	7.3	22000	--
JUN 05...	245	184	4.9	5.0	16	71	.980	24	960	--
JUL 01...	398	331	1.3	1.3	6.4	28	.160	--	30000	23.4
AUG 12...	382	303	.76	.80	1.8	8.0	.210	4.0	14000	14.7
SEP 12...	285	266	1.2	1.2	2.6	12	.170	10	61000	--

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT 16...	1400	1	1	100	30	13	1	20	<10
NOV 07...	1530	--	--	--	--	--	--	--	--
JAN 03...	1615	1	1	50	50	0	0	30	20
FEB 05...	1300	--	--	--	--	--	--	--	--
APR 02...	1145	3	2	<50	40	1	1	50	20
MAY 07...	1500	--	--	--	--	--	--	--	--
JUL 01...	1500	3	2	50	50	0	0	20	<10
AUG 12...	1315	--	--	--	--	--	--	--	--

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT 16...	2	2	9	9	710	10	38	29	70
NOV 07...	--	--	--	--	--	--	--	--	--
JAN 03...	0	0	9	6	2600	40	5	0	40
FEB 05...	--	--	--	--	--	--	--	--	--
APR 02...	3	2	25	4	11000	30	10	0	110
MAY 07...	--	--	--	--	--	--	--	--	--
JUL 01...	0	0	6	6	880	10	3	2	50
AUG 12...	--	--	--	--	--	--	--	--	--

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

ANALYSES OF MINOR ELEMENTS--Continued

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT									
16...	4	.2	.2	0	0	0	0	20	10
NOV									
07...	--	--	--	--	--	0	--	--	--
JAN									
03...	10	.2	.2	0	0	0	0	180	160
FEB									
05...	--	--	--	--	--	0	--	--	--
APR									
02...	3	.1	.1	1	1	0	0	60	20
MAY									
07...	--	--	--	--	--	0	--	--	--
JUL									
01...	4	<.1	<.1	1	0	0	0	20	7
AUG									
12...	--	--	--	--	--	0	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM
JUN											
05...	0845	45700	930	115000	71	85	91	95	98	98	100

SUSPENDED SEDIMENT DISCHARGE

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	TEMPERATURE, WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT DISCHARGE, SUSPENDED (T/DAY)
OCT					
16...	1400	416	13.0	21	24
NOV					
07...	1530	618	7.5	15	25
DEC					
05...	1515	5040	3.0	83	1130
JAN					
03...	1615	5600	2.0	36	544
FEB					
05...	1300	860	.5	10	23
MAR					
03...	1400	2900	.0	44	345
APR					
02...	1145	20000	6.0	260	14000
MAY					
07...	1500	3450	17.5	30	279
JUN					
05...	1530	44300	21.0	900	108000
JUL					
01...	1500	1010	26.0	25	68
AUG					
12...	1315	1690	27.0	61	278
SEP					
12...	1130	1010	22.5	48	131

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	393	32	34	546	32	47	14200	58	2220
2	393	28	30	574	41	64	10900	49	1440
3	453	28	34	532	18	26	8420	56	1270
4	429	29	34	633	13	22	6430	65	1130
5	741	28	56	618	13	22	4970	72	966
6	574	24	37	663	14	25	4100	61	675
7	618	24	40	709	15	29	4100	45	498
8	347	36	34	648	15	26	3220	42	365
9	466	24	30	574	14	22	3270	40	353
10	505	22	30	825	10	22	2910	35	275
11	404	23	25	896	10	24	2670	26	187
12	519	23	32	1010	12	33	2330	16	101
13	546	23	34	1230	15	50	2280	19	117
14	393	24	25	3480	14	132	2480	14	94
15	404	23	25	1760	14	67	2230	16	96
16	393	20	21	600	16	26	2150	26	151
17	441	26	31	620	17	28	2230	37	223
18	416	46	52	580	22	34	2150	13	75
19	519	57	80	560	29	44	1570	13	55
20	532	39	56	560	54	82	1520	12	49
21	505	37	50	492	50	66	1360	21	77
22	416	36	40	603	30	49	2180	162	1080
23	633	17	29	914	51	126	10200	338	9310
24	314	17	14	6360	148	2540	24300	354	23200
25	273	20	15	13600	216	7930	41000	276	30600
26	633	17	29	20800	174	9770	41700	252	28400
27	532	16	23	23000	267	16600	34900	152	14300
28	574	15	23	24200	245	16000	25400	138	9460
29	358	16	15	24900	135	9080	18700	141	7120
30	347	18	17	19400	66	3460	14700	124	4920
31	429	24	28	---	---	---	11400	87	2680
		JANUARY			FEBRUARY			MARCH	
1	8820	57	1360	1200	14	45	5000	38	513
2	7420	36	721	1100	32	95	3500	37	350
3	5770	32	499	1000	28	76	2900	34	266
4	4590	28	347	920	11	27	2600	30	211
5	3690	31	309	860	11	26	2600	25	175
6	3330	29	261	820	18	40	3100	22	184
7	3100	26	218	780	25	53	3500	26	246
8	2000	17	92	780	20	42	6010	28	454
9	1400	19	72	780	14	29	15000	220	8930
10	1200	22	71	780	11	23	24000	280	18100
11	2000	26	140	740	18	36	35000	558	52700
12	5000	30	405	700	33	62	21900	575	34000
13	7000	26	491	700	55	104	18700	305	15400
14	7950	22	472	700	49	93	13400	211	7630
15	6940	34	637	700	37	70	9670	160	4180
16	5330	50	720	700	25	47	8460	109	2490
17	4970	53	711	700	18	34	13100	135	5830
18	5740	46	713	740	43	86	29700	662	53100
19	5940	42	674	1170	25	79	32200	614	53400
20	5840	42	662	898	29	70	26600	406	29200
21	5270	37	526	878	31	73	25800	234	16300
22	4590	32	397	2510	78	585	32600	380	33400
23	3980	39	419	10200	241	6880	33800	328	29900
24	2400	46	298	15300	375	15500	31500	478	40700
25	2000	75	405	14400	288	11200	28500	548	42200
26	1900	87	446	11900	142	4560	26200	224	15800
27	1800	23	112	8820	60	1430	22000	256	15200
28	1700	16	73	6790	42	770	17600	210	9980
29	1600	17	73	6470	40	699	14900	120	4830
30	1400	12	45	---	---	---	16600	165	7400
31	1200	7	23	---	---	---	20200	188	10300
TOTAL	125870	---	12392	94034	---	42834	546840	---	513369

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	22400	200	12100	4530	46	563	2280	41	252
2	19400	229	12000	4100	45	499	5910	85	1530
3	15300	241	9960	3690	44	438	25800	377	27300
4	16900	208	9490	3220	43	373	38800	508	53200
5	21800	226	13300	2910	43	338	44400	870	104000
6	20200	228	12400	2560	37	256	33900	710	65000
7	16400	218	9650	2380	32	206	22600	330	20100
8	13200	211	7520	1700	26	124	21900	640	37800
9	12200	224	7380	1980	24	128	17500	452	21400
10	13100	260	9200	1810	44	215	11500	392	12100
11	12500	242	8170	1910	73	376	8740	142	3350
12	11100	169	5060	1690	58	264	6790	144	2640
13	9760	131	3450	2030	46	252	5810	151	2370
14	12000	127	4110	2130	36	207	4940	147	1960
15	21100	172	6330	2180	29	170	4380	149	1760
16	22900	372	23000	2000	24	130	4850	147	1920
17	19100	346	17600	2380	37	238	6830	45	830
18	14800	225	8980	6510	85	1490	5770	36	561
19	10000	112	3040	12400	155	5180	3980	38	409
20	8620	118	2750	12400	155	5180	3050	78	642
21	7350	139	2760	8380	108	2440	2910	100	785
22	6190	98	1640	7310	91	1800	2610	90	635
23	5010	72	973	5810	59	925	1980	72	385
24	4440	60	719	5070	64	876	1710	77	356
25	3660	56	553	4560	64	788	1610	51	222
26	3220	52	452	5240	67	947	1640	76	336
27	2940	50	396	5040	48	653	1320	66	235
28	4070	48	528	3660	39	385	1270	16	55
29	6900	58	1080	2830	38	290	1270	9	31
30	4850	51	667	2380	37	238	878	42	100
31	---	---	---	2330	36	226	---	---	---
TOTAL	361410	---	195458	127180	---	26195	296928	---	362264
		JULY			AUGUST			SEPTEMBER	
1	933	44	111	4970	195	2620	2200	88	523
2	1050	60	170	3810	112	1150	2150	94	546
3	1010	93	253	2880	42	327	1690	73	332
4	989	42	112	1810	32	156	2030	52	285
5	1880	34	173	1590	29	125	3130	66	558
6	4160	29	326	1430	28	108	2990	64	517
7	3510	20	189	1250	27	91	2480	60	402
8	3510	20	189	1090	26	76	2100	49	278
9	2830	88	671	914	48	118	1760	48	228
10	3330	105	945	951	52	134	1500	48	194
11	3480	117	1100	989	35	93	1240	48	159
12	2800	92	695	1570	55	233	1030	47	131
13	5500	109	1620	1470	51	203	951	40	103
14	6790	124	2270	1690	87	396	878	42	100
15	5500	160	2380	2670	60	432	757	50	102
16	3810	225	2310	3720	66	663	741	58	116
17	2640	185	1320	5200	58	815	878	54	128
18	1930	105	547	5740	54	837	970	55	144
19	1640	38	168	5300	120	1720	1830	56	277
20	1270	136	468	5070	110	1510	2150	49	284
21	1090	185	543	9510	204	5240	1760	51	242
22	3510	124	1170	10300	209	5790	1360	48	176
23	9800	228	2460	8030	162	3510	1230	49	163
24	6650	475	8530	6080	135	2220	1050	49	139
25	3870	380	3970	5100	69	951	1190	44	141
26	2410	308	2000	4350	58	681	1090	48	141
27	2030	230	1260	3270	45	398	842	52	118
28	2030	115	630	2230	37	222	842	40	91
29	7950	335	7190	1690	92	419	825	38	85
30	9550	292	7530	1360	94	346	741	32	64
31	7690	205	4250	1270	68	234	---	---	---
TOTAL	115142	---	55550	107304	---	31818	44375	---	6767
YEAR	2295240		1455603						

04195500 PORTAGE RIVER AT WOODVILLE, OH

LOCATION.--Lat 41°26'58", long 83°21'41", in sec. 28, T.6 N., R.13 E., Sandusky County, Hydrologic Unit 04100010, on left bank at upstream side of bridge on U.S. Highway 20 in Woodville, 600 ft (183 m) downstream from unnamed right bank tributary, and 10.3 mi (16.6 km) upstream from Sugar Creek.

DRAINAGE AREA.--428 mi² (1,109 km²).

PERIOD OF RECORD.--July 1928 to December 1935, October 1939 to current year.

REVISED RECORDS.--WSP 894: 1929-30. WSP 1207: 1933. WSP 1387: 1931, 1933. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 614.75 ft (187.376 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 8, 1933, nonrecording gage, Oct. 9, 1933 to Dec. 30 1935, water-stage recorder, Oct. 17 to Nov. 29, 1939, nonrecording gage, all at same site and datum.

REMARKS.--Records good except those for winter period, which are fair. Flow supplemented by water imported from Maumee River basin for municipal supply for city of Bowling Green 16 mi (26 km) upstream. The importation of this water began Sept. 1, 1951. Sediment data collected at this site 1950 to 1956.

AVERAGE DISCHARGE (adjusted for diversion).--48 years, 314 ft³/s (8.892 m³/s), 9.96 in/yr (253 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) Feb. 15, 1950, gage height, 14.51 ft (4.423 m); minimum daily (prior to diversion) 0.4 ft³/s (0.011 m³/s) Aug. 26, 1931; (subsequent to diversion) 1.8 ft³/s (0.051 m³/s) Sept. 22, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 17 ft (5.2 m), from information by local residents, discharge, 17,000 ft³/s (481 m³/s), from rating curve extended above 11,500 ft³/s (326 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99.1 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	2230	4660	132	9.46	2.883	Apr. 15	0930	3660	104	8.49	2.588
Mar. 22	1930	*6060	172	*10.65	3.246						

Minimum daily discharge, 12 ft³/s (0.34 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	21	428	284	58	100	1900	180	127	32	83	1290
2	15	23	299	235	45	92	1030	142	290	31	56	816
3	12	31	196	196	36	90	736	123	1470	29	47	422
4	19	30	171	165	32	90	955	114	930	27	50	256
5	31	27	182	133	35	94	1130	104	399	58	41	885
6	40	24	165	125	35	94	662	101	240	1800	33	654
7	34	22	169	115	35	110	466	95	203	823	37	293
8	30	23	154	130	35	230	386	85	1020	290	33	160
9	28	27	123	120	35	1940	546	77	976	158	28	109
10	23	37	103	125	35	1200	650	71	483	740	34	90
11	21	131	103	262	35	1110	535	70	254	494	53	73
12	21	121	101	1840	35	605	469	77	154	215	114	56
13	23	75	95	940	35	408	637	87	114	138	171	46
14	23	58	83	487	35	319	1360	111	96	171	126	42
15	21	48	69	322	34	222	3380	103	92	98	215	37
16	19	44	64	262	34	220	1880	83	399	67	160	32
17	18	41	73	296	35	961	940	83	573	52	108	34
18	19	38	83	462	35	3210	601	890	282	40	305	48
19	22	35	64	405	36	2150	425	1240	178	35	254	53
20	20	35	58	317	45	1250	328	597	225	29	375	39
21	17	37	62	256	84	2650	265	349	215	24	1080	31
22	16	39	262	233	256	5400	215	230	134	138	1990	28
23	15	75	2130	210	1050	3470	196	169	96	688	1590	29
24	14	1170	2780	101	772	1390	171	148	78	402	776	37
25	19	1570	4300	233	442	1990	144	201	73	196	438	39
26	27	1660	3820	196	256	1370	123	222	66	95	215	33
27	25	1870	1750	144	180	809	108	140	64	59	133	28
28	23	1220	945	108	140	585	165	101	52	48	90	24
29	21	1370	601	98	125	790	296	87	43	230	66	20
30	21	727	452	86	---	1490	243	85	37	251	54	18
31	20	---	358	74	---	1990	---	98	---	152	69	---
TOTAL	675	10629	20243	8960	4045	36429	20942	6263	9363	7610	8824	5722
MEAN	21.8	354	653	289	139	1175	698	202	312	245	285	191
MAX	40	1870	4300	1840	1050	5400	3380	1240	1470	1800	1990	1290
MIN	12	21	58	74	32	90	108	70	37	24	28	18
+	4.8	4.6	4.1	4.8	5.0	4.5	5.0	5.1	4.8	4.6	4.3	4.5
MEAN≠	17	349	649	284	134	1170	693	197	307	240	281	186
CFSM≠	.04	.82	1.52	.66	.31	2.73	1.62	.46	.72	.56	.66	.43
IN.≠	.05	.91	1.75	.77	.34	3.15	1.81	.53	.80	.65	.76	.48

CAL YR 1979 TOTAL 163433 MEAN 448 MAX 9400 MIN 12 +4.6 MEAN≠ 443 CFSM≠ 1.04 IN≠ 14.05
WTR YR 1980 TOTAL 139705 MEAN 382 MAX 5400 MIN 12 +4.7 MEAN≠ 377 CFSM≠ .88 IN≠ 11.99

+ Diversion, in cubic feet per second, from Maumee River basin for municipal supply; furnished by city of Bowling Green.
≠ Adjusted for diversion.

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH

LOCATION.--Lat 41°26'58", long 83°21'29", in E 1/2 sec. 28, T.6 N., R.13 E., Sandusky County, Hydrologic Unit 04100010, on right bank at old interurban line bridge abutment, just downstream from railroad bridge, and 800 ft (244 m) downstream from discharge station at Woodville.

DRAINAGE AREA.--428 mi² (1,109 km²) (at discharge station).

PERIOD OF RECORD.--Water years 1968 to 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1968 to September 1980 (discontinued).
pH: June 1968 to September 1980 (discontinued).
WATER TEMPERATURES: June 1968 to September 1980 (discontinued).
DISSOLVED OXYGEN: June 1968 to September, 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for station at Woodville (station 04195500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,930 micromhos Sept. 27, 1979; minimum, 195 micromhos Mar. 4, 1979.
pH: Maximum, 12.0 units Aug. 5, 9, 1971, Aug. 14, 15, 1972; minimum, 6.4 units Nov. 29, 30, 1973.
WATER TEMPERATURES: Maximum, 36.5°C July 8, 1974; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 20.0 mg/L July 12, Aug. 15, Dec. 29, 1978, July 18-21, Aug. 8, 1979, June 27, Aug. 6, 1980; minimum, 0.1 mg/L Aug. 14-16, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 1,370 micromhos Feb. 13; minimum recorded, 339 micromhos Mar. 9.
pH: Maximum recorded, 9.3 units Mar. 5; minimum recorded, 7.1 units July 25.
WATER TEMPERATURES: Maximum recorded, 32.0°C July 4; minimum recorded, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 20.0 mg/L June 27, Aug. 6; minimum recorded, 4.9 mg/L Sept. 1.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	960	873	1040	972	---	---	---	---	1080	1050	915	867
2	954	879	1050	975	---	---	---	---	1100	1070	936	891
3	939	870	1050	972	---	---	774	756	1120	1080	942	891
4	954	888	1090	1050	---	---	786	771	1140	1090	1020	924
5	1010	951	1100	1050	---	---	807	777	1180	1090	1070	837
6	966	915	1180	990	---	---	840	813	1150	1070	849	810
7	975	948	990	954	---	---	918	828	1130	1090	840	678
8	1160	948	978	936	---	---	891	858	---	---	669	447
9	1180	954	903	894	---	---	930	894	---	---	426	339
10	1010	966	987	939	---	---	945	912	---	---	---	---
11	---	---	954	909	---	---	915	654	---	---	---	---
12	---	---	915	783	---	---	660	462	---	---	579	534
13	---	---	780	744	---	---	591	501	1370	1060	642	585
14	---	---	753	747	---	---	660	594	1340	1050	702	645
15	---	---	759	744	---	---	708	663	1220	1040	738	705
16	---	---	771	759	---	---	744	708	1120	1010	756	729
17	---	---	798	774	---	---	753	738	1360	1020	786	633
18	---	---	834	801	---	---	741	687	1080	1040	630	606
19	---	---	858	837	1070	897	690	684	1340	1050	552	519
20	---	---	894	855	1190	918	726	696	1310	1030	606	555
21	1040	957	978	879	954	915	744	726	1220	1010	612	507
22	1020	996	912	876	918	711	768	747	1070	726	---	---
23	1060	960	903	795	723	546	810	774	738	450	---	---
24	1070	996	816	594	546	471	828	801	495	438	---	---
25	1310	990	621	582	669	561	---	---	564	495	---	---
26	1180	1050	651	543	627	468	---	---	630	567	---	---
27	1090	1020	594	543	534	483	---	---	687	615	---	---
28	1040	1020	630	597	---	---	---	---	759	690	663	630
29	1110	1010	600	579	---	---	---	---	852	747	666	630
30	1110	1010	---	---	---	---	---	---	---	---	621	558
31	1140	1040	---	---	---	---	1160	1040	---	---	564	471
MONTH	1310	870	1180	543	1190	466	1160	462	1370	438	1070	339

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	726	708	867	741	897	717	795	600	747	396
2	---	---	741	723	915	753	843	675	843	606	468	417
3	---	---	753	729	744	639	810	717	888	795	567	466
4	---	---	768	735	705	648	810	726	903	798	636	570
5	579	546	780	762	750	708	852	720	963	753	630	438
6	642	579	807	762	798	750	777	381	954	708	582	444
7	681	642	789	765	813	738	555	432	879	687	678	585
8	708	681	801	789	750	564	654	558	843	705	741	684
9	702	648	804	771	651	567	723	660	---	---	---	---
10	663	636	816	783	726	651	681	465	---	---	---	---
11	732	657	840	780	801	729	579	471	---	---	969	986
12	---	---	825	774	855	804	687	582	---	---	1070	981
13	---	---	834	798	909	858	741	690	---	---	1090	972
14	---	---	810	783	927	909	762	720	---	---	1090	951
15	---	---	828	810	945	855	774	723	---	---	1150	1010
16	---	---	825	777	897	660	774	711	---	---	1150	1000
17	609	522	852	672	696	636	786	603	---	---	1100	981
18	654	591	777	693	771	699	---	---	---	---	1060	976
19	690	651	729	687	810	663	---	---	---	---	1120	984
20	717	690	756	729	780	744	---	---	---	---	1160	918
21	735	711	786	750	762	714	---	---	489	456	1040	849
22	753	729	819	786	987	762	---	---	465	366	966	735
23	753	744	834	816	1010	822	---	---	483	393	1040	834
24	762	741	843	834	954	846	564	519	543	450	1140	963
25	765	747	840	795	1010	828	699	570	615	498	1050	942
26	999	753	903	747	984	825	789	708	729	618	1260	963
27	1010	711	849	786	927	726	870	789	804	735	1180	765
28	738	639	858	834	891	696	897	804	858	810	1090	708
29	792	696	933	852	810	729	861	540	903	840	939	762
30	795	711	930	804	876	768	678	579	948	834	1130	735
31	---	---	870	831	---	---	696	591	954	657	---	---
MONTH	1010	522	933	672	1010	564	897	381	963	366	1260	396
YEAR	1370	339										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.6	8.3	8.2	7.8	---	---	---	---	8.2	8.0	8.1	7.9
2	8.7	8.3	8.4	7.6	---	---	---	---	8.3	8.0	8.2	7.9
3	8.8	8.3	8.4	8.0	8.2	8.1	8.1	8.0	8.4	8.1	8.1	7.8
4	8.8	8.3	8.5	8.0	8.2	8.1	8.3	8.1	8.3	8.0	8.0	7.8
5	8.7	8.3	8.6	8.1	8.2	8.1	8.4	8.1	8.4	8.1	9.3	8.4
6	8.6	8.2	8.4	8.1	8.5	8.1	8.4	8.0	8.5	8.0	9.1	8.5
7	9.0	8.2	8.4	7.9	8.1	8.0	8.2	8.0	8.3	7.8	9.2	8.8
8	8.9	8.4	8.4	8.0	8.3	8.0	8.5	8.2	---	---	8.9	8.2
9	9.0	8.5	8.3	8.0	8.2	8.1	8.6	8.2	---	---	8.4	7.7
10	9.0	8.6	8.3	8.0	8.3	8.1	8.7	7.9	---	---	---	---
11	8.8	8.6	8.3	8.0	8.2	8.0	8.1	7.6	---	---	---	---
12	8.9	8.4	8.3	8.1	8.0	7.9	7.8	7.7	---	---	7.9	7.6
13	8.9	8.5	8.5	8.1	8.5	7.9	7.9	7.8	---	---	8.0	7.8
14	9.0	8.7	8.6	8.2	8.7	8.0	8.0	7.9	8.2	8.0	8.5	8.0
15	8.9	8.6	8.6	8.2	8.1	7.9	8.1	7.9	8.1	7.9	8.9	8.1
16	8.9	8.6	8.7	8.2	8.2	7.9	8.1	8.0	8.1	7.8	8.3	8.1
17	8.9	8.6	8.8	8.2	8.3	8.1	8.1	8.0	8.2	7.9	8.0	7.6
18	8.9	8.6	8.8	8.2	8.1	7.9	8.2	8.0	8.4	7.8	8.0	7.9
19	8.9	8.5	9.0	8.1	8.1	7.8	8.1	8.0	8.3	7.7	---	---
20	8.9	8.4	8.8	8.1	8.1	7.8	8.2	8.0	8.3	7.5	---	---
21	8.8	8.2	8.8	8.1	8.1	7.8	8.2	8.1	8.7	8.0	---	---
22	8.6	8.0	8.6	8.1	7.9	7.5	8.5	8.1	8.5	7.7	---	---
23	8.5	7.8	8.2	7.8	7.5	7.3	8.7	8.4	7.7	7.6	---	---
24	8.6	7.9	7.9	7.5	7.4	7.2	8.8	8.4	7.7	7.6	---	---
25	8.5	7.9	7.9	7.6	---	---	---	---	7.8	7.7	---	---
26	8.4	8.0	7.9	7.7	---	---	---	---	7.9	7.7	---	---
27	8.5	8.1	7.9	7.6	---	---	---	---	7.9	7.8	---	---
28	8.5	8.1	7.9	7.8	---	---	---	---	8.1	7.8	7.9	7.7
29	8.4	8.0	8.0	7.7	---	---	---	---	8.2	7.9	7.8	7.6
30	8.3	8.0	---	---	---	---	---	---	---	---	7.7	7.6
31	8.5	7.9	---	---	---	---	8.3	7.9	---	---	7.6	7.4
MONTH	9.0	7.8	9.0	7.5	8.7	7.2	8.8	7.6	8.7	7.5	9.3	7.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	7.5	8.7	7.9	8.0	7.6	8.7	7.8	8.2	7.6	---	---
2	7.6	7.5	8.5	8.1	7.8	7.4	8.8	7.7	8.1	7.7	---	---
3	7.7	7.6	8.5	7.8	7.5	7.3	8.7	7.7	8.5	7.6	---	---
4	7.7	7.6	8.5	7.9	7.6	7.4	8.6	7.6	8.6	7.8	---	---
5	7.7	7.6	8.4	7.9	7.6	7.5	8.7	7.5	8.4	7.9	---	---
6	7.8	7.6	8.3	7.7	7.8	7.6	8.1	7.2	8.4	7.8	---	---
7	7.8	7.7	8.3	7.7	7.7	7.4	7.4	7.2	8.4	7.5	---	---
8	7.9	7.8	8.4	7.5	7.4	7.2	7.6	7.4	8.3	7.4	---	---
9	7.8	7.7	8.4	7.8	7.4	7.3	7.6	7.5	---	---	---	---
10	7.7	7.6	8.4	7.8	7.7	7.4	7.6	7.2	---	---	---	---
11	7.8	7.7	8.4	7.7	7.8	7.6	7.5	7.3	---	---	---	---
12	---	---	8.1	7.6	7.9	7.6	7.8	7.5	---	---	---	---
13	---	---	7.8	7.5	8.0	7.7	7.8	7.6	---	---	---	---
14	---	---	8.3	7.5	8.0	7.7	8.1	7.7	---	---	---	---
15	---	---	8.3	7.7	7.8	7.7	8.4	7.8	---	---	---	---
16	---	---	8.5	7.6	7.7	7.4	8.7	7.9	---	---	---	---
17	7.7	7.6	8.1	7.4	7.5	7.4	---	---	---	---	---	---
18	7.8	7.6	7.4	7.3	7.8	7.5	---	---	---	---	8.5	8.1
19	7.9	7.7	7.5	7.3	8.1	7.7	---	---	---	---	8.5	8.1
20	7.9	7.6	7.6	7.4	7.9	7.6	---	---	---	---	8.7	8.1
21	8.0	7.7	7.8	7.5	7.8	7.5	---	---	---	---	8.7	8.2
22	8.1	7.8	7.9	7.6	8.1	7.7	---	---	---	---	8.7	8.2
23	8.2	7.8	7.8	7.6	8.3	7.7	---	---	---	---	8.8	8.2
24	8.3	7.9	8.0	7.6	8.4	7.9	---	---	---	---	8.7	8.2
25	8.5	7.9	8.1	7.6	8.5	8.0	7.4	7.1	---	---	8.8	8.2
26	8.5	8.0	7.9	7.5	8.4	7.9	7.6	7.3	---	---	8.8	8.3
27	8.4	8.0	8.1	7.5	8.6	7.7	7.8	7.4	---	---	8.8	8.3
28	8.2	7.8	8.2	7.6	8.7	7.5	8.0	7.5	---	---	8.9	8.4
29	8.2	7.8	8.2	7.6	8.7	7.5	7.8	7.3	---	---	8.8	8.5
30	8.2	7.7	8.2	7.6	8.8	7.6	7.7	7.3	---	---	8.8	8.3
31	---	---	8.2	7.5	---	---	8.0	7.4	---	---	---	---
MONTH	8.5	7.5	8.7	7.3	8.8	7.2	8.8	7.1	8.6	7.4	8.9	8.1
YEAR	9.3	7.1										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.5	19.0	12.0	10.0	---	---	---	---	.0	.0	.5	.5
2	20.0	18.0	10.0	7.5	---	---	---	---	.5	.0	1.0	.5
3	19.0	17.5	9.0	6.0	.5	.0	2.5	2.0	1.0	.0	.5	.5
4	18.0	16.0	9.5	7.0	1.0	.0	2.5	1.0	.5	.0	1.5	.5
5	15.5	14.0	9.0	6.5	2.5	.5	1.5	1.0	.5	.0	1.5	1.0
6	14.0	12.5	8.5	7.5	3.5	2.0	1.5	1.0	1.0	.0	1.0	1.0
7	13.5	11.5	7.5	5.5	3.0	2.0	2.0	.5	.5	.0	1.0	1.0
8	13.5	11.0	6.0	5.0	2.5	1.5	2.0	1.5	---	---	1.0	.5
9	13.5	12.0	7.5	5.5	2.0	1.0	2.0	1.5	---	---	---	---
10	12.5	10.5	7.5	6.5	2.0	.5	2.0	.0	---	---	---	---
11	10.5	9.5	7.0	6.0	5.0	2.0	1.5	.0	---	---	---	---
12	12.0	10.0	6.0	4.5	6.0	4.0	3.0	1.0	---	---	.5	.0
13	10.5	8.5	6.0	4.5	4.5	3.5	3.0	2.0	1.5	.0	.5	.0
14	11.0	8.5	5.5	4.0	3.5	1.0	3.5	2.0	1.5	.5	2.0	.0
15	12.0	9.0	5.5	4.0	1.0	.5	3.0	2.5	.5	.5	4.0	1.0
16	13.0	11.0	5.5	4.0	1.5	.5	5.5	3.0	2.0	1.0	5.0	2.5
17	14.5	12.5	6.5	3.5	1.0	.0	6.5	5.5	---	---	5.5	4.5
18	15.5	13.0	8.0	5.5	.5	.0	7.0	5.0	---	---	---	---
19	16.5	13.5	9.5	6.0	.5	.0	5.0	4.0	---	---	3.5	2.5
20	19.0	15.0	9.5	7.5	.5	.0	5.0	4.0	---	---	5.0	3.5
21	20.5	18.5	10.5	8.0	.0	.0	4.5	2.5	1.5	.5	---	---
22	21.5	17.5	11.5	10.0	1.0	.0	4.0	2.5	1.0	.0	---	---
23	19.0	11.5	11.5	10.0	4.5	1.0	4.0	3.0	.5	.0	---	---
24	11.5	10.0	10.0	8.5	6.0	4.5	3.5	3.0	.5	.0	---	---
25	10.0	8.5	8.5	7.5	6.0	4.0	---	---	.5	.0	---	---
26	9.0	7.5	9.5	8.0	4.5	3.5	---	---	1.0	.5	---	---
27	9.5	7.5	8.5	8.0	4.5	4.0	---	---	.5	.0	---	---
28	11.5	9.0	8.0	6.5	---	---	---	---	1.0	.5	---	---
29	11.0	8.5	6.5	5.5	---	---	---	---	1.0	.5	---	---
30	10.5	8.0	---	---	---	---	---	---	---	---	---	---
31	13.5	9.5	---	---	---	---	.5	.0	---	---	---	---
MONTH	22.5	7.5	12.0	3.5	6.0	.0	7.0	.0	2.0	.0	5.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	15.5	10.0	22.5	19.5	28.5	19.5	30.5	25.0	---	---
2	---	---	18.0	12.5	21.0	18.5	30.0	22.0	28.5	25.0	---	---
3	---	---	19.0	12.5	20.5	18.5	31.0	22.0	---	---	---	---
4	---	---	20.5	14.5	21.0	18.5	32.0	24.5	---	---	---	---
5	7.0	4.0	21.0	16.0	21.5	17.5	24.0	22.0	---	---	23.0	22.0
6	9.0	5.5	20.0	16.0	23.5	18.5	28.0	21.5	---	---	23.5	21.0
7	8.0	7.5	17.5	13.5	22.5	20.0	28.0	20.5	30.5	26.5	22.0	20.5
8	10.0	8.0	13.0	11.0	20.0	18.0	27.0	21.5	31.5	25.5	23.0	19.0
9	9.0	7.5	14.5	9.5	18.0	16.5	26.5	22.5	---	---	22.0	20.5
10	7.0	5.5	14.5	10.0	18.0	15.0	26.5	22.0	---	---	21.0	18.0
11	8.0	5.0	17.5	12.0	19.5	14.5	27.5	22.5	---	---	21.0	17.5
12	---	---	16.0	14.0	21.0	16.0	29.5	23.5	---	---	20.5	18.5
13	---	---	15.5	14.0	23.0	17.5	27.5	22.0	---	---	22.0	19.0
14	---	---	18.5	15.0	22.0	19.0	28.5	23.0	---	---	23.5	20.5
15	---	---	17.5	14.5	20.0	17.0	---	---	---	---	21.0	19.0
16	---	---	18.0	13.5	19.0	16.0	---	---	---	---	20.0	17.5
17	9.0	6.5	15.5	13.5	20.0	16.0	---	---	---	---	19.5	17.5
18	11.5	7.0	15.5	13.0	22.0	17.5	---	---	---	---	19.5	16.0
19	14.0	9.5	17.0	14.5	22.5	19.0	---	---	---	---	21.0	17.0
20	15.0	11.5	17.5	14.5	21.5	17.0	---	---	---	---	23.0	18.5
21	15.5	11.0	19.0	15.5	22.5	18.0	---	---	---	---	26.0	21.0
22	17.0	12.5	21.5	16.5	24.5	19.0	---	---	---	---	28.5	23.5
23	17.0	14.0	20.0	18.0	28.5	20.5	---	---	---	---	24.0	20.0
24	14.5	11.5	21.5	18.5	28.5	21.5	---	---	---	---	20.5	18.0
25	14.5	10.0	23.0	19.0	30.0	21.5	28.5	23.0	---	---	20.5	17.5
26	13.5	10.0	21.0	18.0	30.5	23.0	29.5	24.5	---	---	18.0	16.0
27	12.5	10.0	22.0	18.5	30.0	24.5	27.5	25.5	---	---	17.0	14.0
28	11.5	9.0	23.5	17.5	30.0	23.0	28.0	24.5	---	---	18.5	14.5
29	12.0	9.0	24.0	19.0	30.5	24.5	27.0	23.0	---	---	20.5	14.5
30	12.0	10.5	24.0	20.0	29.0	20.5	27.0	23.5	---	---	21.5	16.0
31	---	---	25.0	20.5	---	---	29.5	23.5	---	---	---	---
MONTH	17.0	4.0	25.0	9.5	30.5	14.5	32.0	19.5	31.5	25.0	28.5	14.0
YEAR	32.0	.0										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.6	7.0	9.3	6.7	---	---	---	---	15.6	13.2	16.7	14.0
2	11.8	7.0	12.6	8.9	---	---	---	---	16.0	12.6	16.9	14.3
3	12.8	7.1	12.8	9.1	13.6	13.5	11.7	11.4	16.5	12.3	16.1	14.6
4	13.7	7.6	14.2	9.3	13.8	12.2	11.7	11.3	16.9	13.1	16.3	14.7
5	12.5	7.5	14.8	10.5	13.4	12.6	11.7	11.0	17.8	12.7	15.8	14.2
6	11.4	7.2	13.3	10.3	12.5	11.2	11.6	11.0	---	---	16.3	13.8
7	13.6	7.4	13.8	8.8	12.5	11.1	11.5	11.1	---	---	14.8	12.9
8	14.4	8.1	12.4	10.2	13.0	11.0	11.3	11.0	---	---	12.8	11.6
9	14.9	9.1	11.2	9.5	13.5	12.1	11.4	11.1	---	---	---	---
10	14.6	9.6	11.7	7.8	14.0	12.2	11.5	10.9	---	---	---	---
11	13.0	10.6	11.3	8.0	13.6	12.2	11.5	10.9	---	---	---	---
12	14.1	9.4	12.3	9.3	12.1	11.2	12.0	11.5	---	---	---	---
13	14.4	10.1	14.0	10.5	12.4	10.9	12.0	11.7	---	---	12.6	12.2
14	15.3	10.5	15.2	10.8	13.7	11.2	11.9	11.2	---	---	13.5	12.1
15	14.0	10.8	14.8	10.6	14.3	12.2	11.6	11.2	---	---	13.7	12.0
16	14.9	10.6	16.1	10.5	14.0	11.3	11.7	11.4	---	---	12.6	9.5
17	15.1	9.9	16.2	11.0	15.1	12.3	11.4	11.0	---	---	9.5	7.9
18	14.7	9.9	16.6	10.2	15.0	13.6	11.2	10.6	---	---	---	---
19	15.4	9.1	17.3	9.3	15.2	13.0	11.4	11.1	---	---	---	---
20	15.0	8.3	17.5	8.8	15.5	12.0	11.4	11.1	---	---	12.3	8.4
21	13.9	8.2	17.2	9.0	15.4	13.4	11.6	11.1	---	---	9.5	8.4
22	11.7	7.5	14.2	8.4	13.6	11.9	11.5	11.0	---	---	---	---
23	12.3	8.4	10.2	7.3	11.7	11.1	11.5	11.2	12.7	11.9	---	---
24	13.0	8.7	9.6	7.7	11.0	9.5	---	---	12.8	12.7	---	---
25	13.0	8.1	10.1	9.4	12.1	8.9	---	---	13.2	12.8	---	---
26	12.4	8.1	10.1	9.4	---	---	---	---	13.6	13.1	---	---
27	12.8	9.5	10.2	9.5	---	---	---	---	14.1	13.5	---	---
28	12.9	8.7	10.5	9.0	---	---	---	---	14.8	13.4	12.1	11.3
29	12.5	9.0	11.0	10.0	---	---	---	---	15.6	13.5	11.2	10.8
30	11.8	9.0	---	---	---	---	---	---	---	---	10.7	10.3
31	12.0	8.0	---	---	---	---	15.9	13.1	---	---	10.4	10.0
MONTH	15.4	6.6	17.5	6.7	15.8	8.9	15.9	10.6	17.8	11.9	16.3	7.9

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	---	---	9.8	7.6	11.3	8.9	11.0	8.8	7.2	4.9
2	---	---	16.4	11.2	8.6	7.4	10.3	7.9	9.7	8.4	5.8	5.2
3	---	---	17.2	8.9	7.9	7.[illegible]	9.4	7.5	14.9	7.0	8.1	5.8
4	---	---	15.6	8.5	8.2	7.[illegible]	8.5	7.9	10.3	7.2	8.6	6.0
5	12.2	8.9	14.5	7.5	8.5	7.9	12.9	7.7	10.5	7.4	8.4	5.0
6	12.1	11.3	14.0	6.0	8.9	8.0	9.7	8.1	20.0	7.2	5.9	5.3
7	11.5	11.1	13.7	7.4	8.3	7.6	7.5	6.8	10.5	7.0	6.3	5.7
8	11.5	10.9	14.4	8.3	8.1	7.6	7.3	6.6	---	---	7.1	6.2
9	11.0	10.7	15.0	9.5	9.0	8.1	7.5	6.5	---	---	7.7	6.6
10	11.9	11.1	13.9	9.4	9.4	9.0	6.8	6.4	---	---	9.0	7.4
11	12.1	11.7	13.4	8.2	10.1	9.2	8.5	6.3	---	---	9.7	7.9
12	---	---	10.7	8.9	10.5	9.4	8.7	6.3	---	---	9.8	7.6
13	---	---	8.6	6.5	10.0	9.2	7.8	6.6	---	---	10.4	7.3
14	---	---	9.8	6.0	10.6	8.8	8.2	6.8	---	---	12.1	6.8
15	---	---	9.5	7.0	9.7	8.7	10.1	6.5	---	---	11.4	7.0
16	---	---	11.0	6.5	9.4	8.6	12.5	6.2	---	---	12.0	7.6
17	12.2	9.9	9.2	7.0	9.2	8.8	---	---	---	---	12.8	6.8
18	10.1	9.6	---	---	9.6	8.8	---	---	---	---	12.7	6.6
19	9.8	9.1	---	---	9.9	8.7	---	---	---	---	13.1	6.7
20	9.6	8.7	---	---	10.1	8.8	---	---	---	---	14.2	7.9
21	10.8	8.6	---	---	9.5	8.6	---	---	5.8	5.7	12.6	7.2
22	10.9	8.6	---	---	11.3	8.9	---	---	5.8	5.2	9.7	6.4
23	11.9	7.5	---	---	13.7	8.4	---	---	6.1	5.5	10.5	6.1
24	12.5	8.6	---	---	15.0	8.5	---	---	6.3	6.1	13.0	7.5
25	14.8	8.6	---	---	17.0	9.4	7.5	6.6	6.5	6.3	13.4	7.4
26	14.6	9.6	---	---	17.7	8.9	8.5	6.7	7.2	6.4	12.5	7.6
27	14.5	9.7	---	---	20.0	9.1	9.1	6.6	8.2	6.4	11.4	7.6
28	12.1	8.5	---	---	19.5	9.3	9.1	6.7	9.0	6.6	10.3	7.9
29	11.7	7.6	12.7	7.7	17.8	8.3	7.9	6.7	10.9	6.4	13.2	8.1
30	11.9	7.7	12.8	7.3	14.5	8.0	8.6	6.7	13.4	6.2	12.7	7.3
31	---	---	12.5	6.7	---	---	10.2	6.3	12.1	6.2	---	---
MONTH	14.8	7.5	17.2	6.0	20.0	7.4	12.9	6.1	20.0	5.2	14.2	4.9
YEAR	20.0	4.9										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04195600 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
MAR									
28...	2000	567	688	8.0	37	3.9	465	.63	712
28...	2400	558	709	8.1	60	4.7	454	.62	684
29...	0400	567	712	8.1	58	4.8	442	.60	677
29...	0800	614	712	8.2	48	4.8	445	.61	738
29...	1200	710	710	8.1	56	5.1	397	.54	761
29...	1600	882	703	8.2	58	4.8	397	.54	945
29...	2000	1220	708	8.0	71	4.8	403	.55	1330
29...	2400	1590	694	8.0	78	4.9	408	.55	1750
30...	0400	1750	661	7.9	76	5.0	403	.55	1900
30...	0800	1750	623	7.9	92	5.2	382	.52	1810
30...	1200	1660	606	8.0	96	5.2	407	.55	1820
30...	1600	1530	609	7.9	103	5.3	401	.55	1660
APR									
02...	1500	1030	635	7.7	88	5.4	421	.57	1170
MAY									
19...	1300	1260	731	7.5	--	--	--	--	--
19...	1700	1090	738	7.5	107	--	--	--	--
19...	2100	954	745	7.9	69	--	--	--	--
20...	0100	835	756	7.9	55	--	--	--	--
20...	0500	739	765	7.7	74	--	--	--	--
20...	0900	659	763	8.0	71	--	--	--	--
20...	1230	597	765	8.0	69	--	--	--	--
20...	1430	567	758	7.6	58	--	--	--	--
20...	1545	550	759	7.6	55	--	--	--	--
20...	1630	538	766	7.6	69	--	--	--	--
JUN									
03...	1830	1690	653	8.2	124	8.2	--	--	--
03...	2230	1570	664	8.3	131	8.5	--	--	--
04...	0230	1400	670	7.8	135	8.4	--	--	--
04...	0630	1210	686	7.9	133	8.4	--	--	--
04...	1030	1040	690	7.9	109	8.5	--	--	--
04...	1430	872	691	8.1	113	8.7	--	--	--
04...	1830	734	724	7.9	89	8.6	--	--	--
04...	2230	623	733	7.9	82	8.6	--	--	--
05...	0230	536	747	8.0	76	8.6	--	--	--
11...	1400	371	806	7.9	76	7.2	--	--	--

04195500 PORTAGE RIVER AT RAILROAD BRIDGE, AT WOODVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
MAR								
29...	63	7.5	.00	.87	.87	8.4	37	.170
29...	48	7.5	.00	.94	.93	8.5	37	.120
29...	56	7.4	.00	.84	.85	8.3	37	.160
29...	52	7.3	.00	.95	.95	8.3	37	.130
29...	28	7.4	.01	.80	.82	8.2	37	.144
29...	42	7.6	.01	.92	.93	8.5	38	.169
29...	58	7.7	.01	1.1	1.1	8.9	39	.181
29...	68	7.6	.01	1.4	1.4	9.0	40	.214
30...	107	7.7	.04	1.2	1.2	9.0	40	.200
30...	119	7.9	.02	1.4	1.4	9.3	41	.287
30...	131	8.1	.02	1.3	1.3	9.4	42	.282
30...	112	8.2	.02	1.6	1.6	9.8	43	.317
APR								
02...	87	8.2	.02	1.2	1.2	9.4	42	.242
MAY								
19...	265	23	.02	--	--	--	--	--
19...	119	24	.01	2.2	2.2	26	116	.245
19...	58	21	.00	2.1	2.1	24	106	.256
20...	44	21	.01	1.8	1.8	23	102	.247
20...	40	20	.03	1.4	1.4	22	97	.260
20...	35	19	.01	1.1	1.1	21	93	.227
20...	31	19	.00	1.6	1.6	21	93	.247
20...	26	19	.00	.94	.95	20	87	.190
20...	23	19	.00	1.0	1.0	21	91	.202
20...	25	18	.01	1.8	1.8	20	88	.143
JUN								
03...	253	24	.02	2.8	2.8	27	119	.456
03...	217	24	.01	2.6	2.6	27	121	.422
04...	162	25	.02	1.1	1.1	26	115	.408
04...	166	25	.01	1.7	1.6	26	116	.373
04...	128	24	.02	1.5	1.5	26	116	.264
04...	143	24	.03	2.1	2.1	26	117	.338
04...	140	23	.04	1.3	1.3	25	110	.305
04...	116	22	.04	1.3	1.3	24	105	.277
05...	90	21	.03	1.4	1.4	22	98	.262
11...	633	12	.03	1.1	1.1	14	63	.254

04196000 SANDUSKY RIVER NEAR BUCYRUS, OH

LOCATION.--Lat 40°48'13", long 83°00'21", in NE 1/4 sec. 10, T. 3 S., R. 16 E., Crawford County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on township road, 1 mile (2 km) upstream from unnamed left bank tributary, 1.5 mi (2.4 km) west of Bucyrus, and 12 mi (19 km) downstream from Loss Creek.

DRAINAGE AREA.--88.8 mi² (230 km²).

PERIOD OF RECORD.--August 1925 to November 1935, July 1938 to December 1951, December 1963 to current year.

REVISED RECORDS.--WSP 784: 1925-32. WSP 874: 1938. WSP 1307: 1926(M), 1928(M), 1931, 1932(M), 1934-35(M), 1939, 1940(M), 1946(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.04 ft (291.096 m) National Geodetic Vertical Datum of 1929. Prior to May 11, 1940, nonrecording gage, and May 12, 1940, to December 31, 1951, water-stage recorder, at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow slightly affected by operation of reservoirs 5.3 mi (8.5 km) to 6.0 mi (9.7 km) upstream from station, for municipal supply of Bucyrus. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--39 years (1925-35, 1938-51, 1964-80), 86.7 ft³/s (2.455 m³/s), 13.26 in/yr (337 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 5,800 ft³/s (164 m³/s) Dec. 14, 1927, gage height, 9.15 ft (2.789 m) from rating curve extended above 2,500 ft³/s (70.8 m³/s); maximum gage height, 9.83 ft (2.996 m) Dec. 14, 1977; minimum daily discharge, 0.6 ft³/s (0.017 m³/s) Sept. 28-30, 1941, Sept. 25-26, 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 23, 1913 reached a stage of 14.5 ft (4.42 m), from floodmarks. Flood of Jan. 22, 1959 reached a stage of 11.9 ft (3.63 m), from floodmarks, discharge, 13,500 ft³/s (382 m³/s), on basis of contracted-opening measurement of peak flow at site 2.8 mi (4.5 km) upstream with drainage area of 85.4 mi² (221 km²), adjusted to gage site by 0.8 power of drainage-area ratio.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 24	2000	1460	41.3	6.30	1.920	Mar. 8	2200	*2290	64.9	*7.76	2.365
Nov. 26	1800	1550	43.9	6.48	1.975	Mar. 21	2200	1430	40.5	6.24	1.902
Dec. 25	0100	1520	43.0	6.41	1.954	Apr. 4	1700	1500	42.5	6.38	1.945
Feb. 22	2100	1480	41.9	6.34	1.932	June 3	0600	1680	47.6	6.72	2.048

Minimum daily discharge, 5.5 ft³/s (0.156 m³/s) Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	28	81	56	16	24	237	26	34	18	23	11
2	27	55	66	50	15	23	135	22	685	14	18	10
3	25	62	53	45	13	23	129	21	1450	12	25	9.5
4	67	38	53	38	13	23	1060	20	369	13	95	17
5	164	29	50	34	12	25	404	19	148	516	61	25
6	94	25	60	32	12	80	165	18	90	224	40	18
7	61	25	71	29	12	144	105	18	86	61	28	11
8	45	23	65	26	11	1580	99	17	197	35	354	9.6
9	40	38	53	25	11	911	275	16	99	56	124	12
10	43	210	47	24	11	275	266	16	57	135	59	12
11	45	129	44	262	11	215	162	17	41	54	133	12
12	41	69	42	600	11	104	119	34	32	41	152	11
13	39	53	43	130	11	80	122	50	27	98	69	10
14	32	44	43	85	11	63	412	36	24	47	49	11
15	27	40	39	71	11	51	497	23	42	22	97	10
16	29	41	36	61	11	53	235	17	371	15	93	10
17	31	41	28	73	11	142	138	34	121	11	54	12
18	33	37	30	85	11	367	92	95	57	10	396	9.5
19	32	36	30	67	13	254	72	94	39	12	170	9.0
20	29	35	27	54	17	153	61	53	31	10	465	6.8
21	29	35	25	45	47	837	53	39	24	38	394	5.5
22	28	47	67	38	892	567	46	30	20	113	419	11
23	27	197	195	30	481	179	41	25	18	66	140	24
24	25	1090	837	27	164	177	37	149	17	32	75	21
25	25	637	881	39	99	422	33	197	16	19	48	12
26	22	1370	522	30	54	173	30	94	15	14	30	14
27	18	467	198	25	38	113	28	50	14	13	22	12
28	18	230	126	23	28	92	30	32	28	18	17	8.7
29	18	162	92	21	25	188	28	24	47	332	14	7.5
30	17	108	77	19	---	193	26	32	27	79	14	6.3
31	16	---	65	17	---	516	---	29	---	36	12	---
TOTAL	1181	5401	4046	2161	2072	8047	5137	1347	4226	2164	3690	358.4
MEAN	38.1	180	131	69.7	71.4	260	171	43.5	141	69.8	119	11.9
MAX	164	1370	881	600	892	1580	1060	197	1450	516	465	25
MIN	16	23	25	17	11	23	26	16	14	10	12	5.5
CFSM	.43	2.03	1.48	.79	.80	2.93	1.93	.49	1.59	.79	1.34	.13
IN.	.49	2.26	1.69	.91	.87	3.37	2.15	.56	1.77	.91	1.55	.15

CAL YR 1979 TOTAL 56411.6 MEAN 155 MAX 2780 MIN 6.3 CFSM 1.75 IN 23.63
WTR YR 1980 TOTAL 39830.4 MEAN 109 MAX 1580 MIN 5.5 CFSM 1.23 IN 16.69

04196200 BROKEN SWORD CREEK NEAR NEVADA, OH

LOCATION.--Lat 40°49'34", long 83°09'11", in sec. 32, T.25 N., R. 15 E., Wyandot County, Hydrologic Unit 04100011, on right bank at bridge on State Highway 182, 1.2 mi (1.93 km) northwest of Nevada, 5.0 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--83.8 mi² (217 km²).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959, 1962-65, 1967, 1969-71. February 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 880 ft (268 m) from topographic map.

REMARKS.--Records fair except those for the winter periods, which are poor. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 3,700 ft³/s (105 m³/s) Mar. 15, 1978; maximum recorded gage height 12.53 ft (3.82 m) Dec. 15, 1977; minimum observed discharge, 0.01 ft³/s (0.0003 m³/s) Oct. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,100 ft³/s (31.2 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 27	0430	1370	38.8	10.17	3.100	Mar. 22	0530	*1410	39.9	10.24	3.121
Dec. 25	1130	1260	35.7	9.99	3.045	June 3	0730	1230	34.8	9.99	3.045
Mar. 9	0300	1400	39.6	*a 10.91	3.325						

Minimum daily discharge 4.2 ft³/s (.119 m³/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	23	59	37	8.4	15	401	21	35	15	11	16
2	16	28	48	32	7.8	13	136	20	582	13	8.7	12
3	16	40	39	27	7.2	13	92	19	1170	10	8.2	11
4	22	39	37	24	7.0	13	792	19	843	9.5	17	9.2
5	117	33	35	21	6.8	13	666	18	155	396	33	15
6	101	33	39	20	6.4	25	156	18	85	823	20	14
7	54	32	48	18	6.2	88	101	18	77	161	15	9.5
8	37	31	49	17	6.2	800	74	16	161	59	11	8.3
9	32	30	40	16	6.2	1100	149	15	96	41	8.5	7.3
10	29	70	35	15	6.0	419	234	14	55	40	7.8	6.6
11	26	91	32	160	6.0	209	149	14	39	28	11	5.8
12	26	53	30	570	5.8	70	113	17	30	25	25	5.4
13	27	43	30	204	5.8	48	112	21	26	40	21	4.8
14	28	37	29	56	5.8	37	353	20	23	29	15	4.2
15	24	33	26	50	5.8	30	603	17	25	20	28	4.3
16	23	32	25	41	5.8	31	260	13	441	16	69	4.6
17	23	31	22	49	5.8	156	139	17	364	12	35	4.9
18	24	31	21	63	6.0	476	95	139	77	11	77	5.0
19	27	30	19	50	6.2	199	74	133	49	8.9	89	6.2
20	29	29	18	39	8.0	97	61	86	37	7.4	137	5.2
21	29	28	15	33	21	1070	53	56	29	43	431	4.4
22	29	29	50	32	605	1240	46	40	23	387	270	4.3
23	29	228	326	29	785	356	40	34	21	129	128	21
24	29	814	915	27	109	253	37	160	20	49	58	34
25	29	912	1240	22	52	630	34	376	19	30	40	17
26	29	1110	934	19	36	230	29	256	16	19	29	13
27	29	1290	318	16	25	114	26	86	14	15	21	10
28	27	519	99	15	20	82	26	56	15	14	17	10
29	24	201	64	14	18	167	27	42	45	14	14	9.6
30	22	87	52	11	---	194	24	34	23	22	12	6.7
31	22	---	43	9.0	---	528	---	30	---	15	11	---
TOTAL	995	5987	4737	1736.0	1860.2	8716	5102	1825	4595	2501.8	1678.2	289.3
MEAN	32.1	200	153	56.0	64.1	281	170	58.9	153	80.7	54.1	9.64
MAX	117	1290	1240	570	785	1240	792	376	1170	823	431	34
MIN	16	23	15	9.0	5.8	13	24	13	14	7.4	7.8	4.2
CFSM	.38	2.39	1.83	.67	.77	3.35	2.03	.70	1.83	.96	.65	.12
IN.	.44	2.66	2.10	.77	.83	3.87	2.26	.81	2.04	1.11	.74	.13

CAL YR 1979 TOTAL 51024.9 MEAN 140 MAX 2180 MIN 6.4 CFSM 1.67 IN 22.65
WTR YR 1980 TOTAL 40022.5 MEAN 109 MAX 1290 MIN 4.2 CFSM 1.30 IN 17.77

a Ice jam

04196500 SANDUSKY RIVER NEAR UPPER SANDUSKY, OH

LOCATION.--Lat 40°51'02", long 83°15'23", in sec. 21, T.2 S., R.14 E., Wyandot County, Hydrologic Unit 04100011, on left bank at downstream side of county road bridge, 0.7 mi (1.1 km) downstream from unnamed right bank tributary, 0.8 mi (1.3 km) upstream from Rock Run, and 2 mi (3 km) northeast of Upper Sandusky.

DRAINAGE AREA.--298 mi² (772 km²).

PERIOD OF RECORD.--October 1921 to December 1935, January 1938 to current year. Gage height records collected at site 3 mi (5 km) upstream since 1912 (fragmentary) are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 874: 1927-30, 1933. WSP 1387: 1922(M), 1923-29, 1944. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 792.25 ft (241.478 m) National Geodetic Vertical Datum of 1929 prior to Sept. 14, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good except those for winter periods, which are fair. Water-quality data collected at this site 1969 to 1979.

AVERAGE DISCHARGE.--56 years, 245 ft³/s (6.938 m³/s), 11.16 in/yr (283 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 10,000 ft³/s (283 m³/s) Jan. 22, 1959; maximum gage height, 15.00 ft (4.572 m) in gage well, 15.55 ft (4.740 m) from outside floodmark, Jan. 22, 1959 (ice jam); minimum discharge, 0.50 ft³/s (0.014 m³/s) Oct. 2, 1963.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1937 reached a stage of 14.3 ft (4.36 m), from high-water marks in gage well.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 27	1030	2950	83.5	6.44	1.963
Dec. 25	1800	3320	94.0	6.87	2.094
Mar. 9	1730	*4680	133	*8.33	2.539
Mar. 22	0730	3500	99.1	7.08	2.158
June 3	1730	4360	123	8.00	2.438

Minimum discharge, 20 ft³/s (0.56 m³/s) Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	50	346	224	50	110	1230	100	115	76	80	38
2	73	58	266	193	47	100	610	100	1970	55	62	39
3	66	126	208	170	45	100	457	79	4020	47	57	32
4	86	142	193	151	45	94	1660	76	3180	40	78	39
5	421	99	180	140	44	94	2060	77	1040	258	160	85
6	492	73	188	130	44	250	798	72	503	1050	118	80
7	282	66	220	127	43	581	460	68	333	537	90	57
8	190	60	229	122	42	2940	336	66	431	192	72	39
9	154	70	197	194	42	4500	450	66	503	201	398	32
10	154	126	170	153	41	2080	767	63	255	321	146	30
11	159	447	156	255	41	997	648	62	180	251	176	31
12	151	243	146	1600	41	557	434	93	140	163	348	29
13	147	166	139	812	41	355	402	112	118	384	270	26
14	126	133	134	379	42	269	806	121	103	248	142	25
15	107	113	128	276	42	215	1750	105	96	125	125	23
16	93	103	122	237	42	200	968	82	577	76	233	22
17	99	95	105	207	43	386	603	81	869	54	179	29
18	103	95	105	171	42	1230	379	341	325	41	192	27
19	111	93	120	161	42	964	284	542	175	35	614	27
20	105	88	111	179	43	617	232	317	129	31	314	22
21	99	83	107	233	46	2100	202	210	104	30	1210	23
22	92	93	127	179	850	3290	177	157	86	334	1160	25
23	83	279	565	151	2060	1370	163	131	76	467	699	25
24	79	1510	1750	113	950	782	155	337	71	188	282	44
25	76	2160	3120	112	423	1500	149	1220	71	101	168	69
26	71	2410	2480	97	251	967	125	751	62	67	130	43
27	63	2770	1220	100	170	544	106	324	55	55	101	33
28	56	1350	626	110	130	400	107	185	51	49	79	33
29	52	796	417	80	120	467	107	130	78	74	67	32
30	46	504	321	62	---	710	101	105	121	359	55	26
31	48	---	267	51	---	1230	---	110	---	128	50	---
TOTAL	3987	14401	14463	7169	5868	29999	16726	6283	15837	6037	7855	1085
MEAN	129	480	467	231	202	968	558	203	528	195	253	36.2
MAX	492	2770	3120	1600	2060	4500	2060	1220	4020	1050	1210	85
MIN	46	50	105	51	41	94	101	62	51	30	50	22
CFSM	.43	1.61	1.57	.78	.68	3.25	1.87	.68	1.77	.65	.85	.12
IN.	.50	1.80	1.81	.89	.73	3.74	2.09	.78	1.98	.75	.98	.14

CAL YR 1979 TOTAL 140704 MEAN 385 MAX 6330 MIN 23 CFSM 1.29 IN 17.56
WTR YR 1980 TOTAL 129710 MEAN 354 MAX 4500 MIN 22 CFSM 1.19 IN 16.19

04196800 TYMOCHTEE CREEK AT CRAWFORD, OH

LOCATION.--Lat 40°55'22", long 83°20'56", in SE 1/4 sec. 27, T.1 S., R.13 E., Wyandot County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on State Highway 199 (formerly U.S. Highway 23), 0.4 mi (0.6 km) northwest of Crawford, 1.5 mi (2.4 km) downstream from Lick Run, 2.7 mi (4.3 km) upstream from Little Tymochtee Creek, and 3 mi (5 km) southeast of Carey.

DRAINAGE AREA.--229 mi^{2} (593 km^{2}).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961-63, and annual maximum, water years 1961-64, June 1964 to current year.

REVISED RECORDS.--WRD Ohio 1969: 1964(P), 1966(M), 1967(P).

GAGE.--Water-stage recorder. Datum of gage is 785.86 ft (239.530 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter period and periods of no gage-height record Nov. 18 to Jan. 24, June 6 to July 9, July 21-29, which are fair. Beginning Mar. 9, 1972 water was diverted at a point 29.4 mi (47.3 km) upstream from station into Killdeer Reservoir. Storage is available for low-flow augmentation. During the year, short term releases totaled 57.5 Mgal (0.218 hm^{3}), equivalent to a mean annual release of 0.24 ft^{3}/s (0.007 m^{3}/s). No withdrawals were made during the year. Water-quality data collected at this site 1968 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--16 years, 174 ft^{3}/s (4.928 m^{3}/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,390 ft^{3}/s (181 m^{3}/s) March 17, 1978, gage height, 9.94 ft (3.030 m); maximum gage height, 11.21 ft (3.417 m) Mar. 6, 1963 (backwater from ice); no flow Aug. 10, Sept. 13-18, Oct. 23 to Nov. 4, 1964, Aug. 23-26, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1959 reached a stage of 12.9 ft (3.93 m), from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,800 ft^{3}/s (51.0m^{3}/s) and maximums (*):

Date	Time	Discharge (ft^{3}/s)	Discharge (m^{3}/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^{3}/s)	Discharge (m^{3}/s)	Gage height (ft)	Gage height (m)
Dec. 26	---	3400	96	---	---	Mar. 23	0100	2930	83.0	7.23	2.204
Mar. 9	2145	4210	119	8.49	2.588	June 3	2345	*4840	137	*8.74	2.664

Minimum daily discharge 2.3 ft^{3}/s (0.065 m^{3}/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	270	160	26	60	958	35	35	17	30	30
2	19	18	180	120	25	52	758	32	551	15	25	17
3	22	20	140	96	25	49	359	27	2670	14	14	12
4	26	21	140	82	24	47	860	24	4070	30	11	16
5	39	20	140	70	24	90	1150	24	2280	64	8.8	26
6	124	22	140	68	23	213	1110	23	660	200	15	38
7	167	24	140	68	23	361	431	21	400	120	17	18
8	120	22	110	70	23	1170	263	23	220	66	13	14
9	83	22	100	72	23	2880	272	21	150	56	11	12
10	63	41	85	76	22	3060	331	19	110	103	9.2	10
11	65	72	74	170	22	1410	284	18	90	238	9.4	8.4
12	76	94	66	400	22	696	263	23	80	158	13	7.7
13	77	78	56	840	22	339	248	62	70	246	71	8.7
14	80	58	48	500	22	233	598	87	60	474	65	8.7
15	71	46	42	290	23	168	1080	74	100	270	48	7.6
16	56	39	37	200	24	152	1290	56	290	108	43	7.0
17	47	36	37	240	24	291	608	43	230	60	39	8.8
18	45	34	37	330	25	725	266	161	160	35	40	7.9
19	46	33	37	260	26	866	178	381	100	23	38	7.0
20	48	32	37	180	26	538	135	297	75	19	39	6.3
21	46	40	60	140	32	1400	105	159	45	15	234	6.3
22	46	90	130	105	307	2350	105	104	26	20	669	9.3
23	41	200	280	75	616	2420	97	72	18	37	733	26
24	36	530	600	54	827	1160	79	66	19	30	414	12
25	32	920	1350	78	535	951	69	186	30	22	152	8.8
26	31	1000	2500	112	200	1040	55	331	48	19	80	7.4
27	30	1080	1300	68	140	658	48	161	32	18	53	5.3
28	26	880	760	51	125	334	42	82	22	23	55	3.7
29	24	580	450	45	100	385	38	53	20	27	47	2.6
30	22	380	270	35	---	485	37	43	18	23	41	2.3
31	20	---	200	28	---	774	---	33	---	13	42	---
TOTAL	1643	6451	9816	5085	3356	25357	12117	2743	12679	2563	3079.4	354.8
MEAN	53.0	215	317	164	116	818	404	88.5	423	82.7	99.3	11.8
MAX	167	1080	2500	840	827	3060	1290	381	4070	474	733	38
MIN	13	18	37	28	22	47	37	18	18	13	8.8	2.3

CAL YR 1979 TOTAL 75642.3 MEAN 207 MAX 4020 MIN 5.3
WTR YR 1980 TOTAL 85244.2 MEAN 233 MAX 4070 MIN 2.3

04197000 SANDUSKY RIVER NEAR MEXICO, OH

LOCATION.--Lat 41°02'39", long 83°11'42", in sec. 13, T.1 N., R.14 E., Seneca County, Hydrologic Unit 04100011, on right bank at downstream side of county road bridge, 4.1 mi (6.6 km) upstream from Honey Creek, 4.2 mi (6.8 km) north of Mexico, 4.9 mi (7.9 km) south of Tiffin, and 8.3 mi (13.4 km) downstream from Mile Run.

DRAINAGE AREA.--774 mi² (2,005 km²).

PERIOD OF RECORD.--November 1898 to November 1900 (gage height and discharge measurements only), March 1923 to December 1935, July 1938 to current year. Discharge records for November 1898 to November 1900, published in 22nd Annual Report, Part 4, are unreliable and should not be used.

REVISED RECORDS.--WSP 714: 1929-30. WSP 874: 1927(M). WSP 1387: 1925, 1928-29, 1930(M), 1931. WSP 1912: Drainage area. See also Period of Record.

GAGE.--Water-stage recorder. Datum of gage is 733.1 ft (223.45 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 15, 1929, nonrecording gage at same site and datum.

REMARKS.--Records fair. Water-quality data collected at this site 1965, 1966, 1969, 1971 to 1973, 1976, 1977. Sediment data collected 1969 to 1974.

AVERAGE DISCHARGE.--54 years, 584 ft³/s (16.54 m³/s), 10.25 in/yr (260 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,900 ft³/s (535 m³/s) Jan. 23, 1959, gage height, 22.43 ft (6.837 m), from floodmark; minimum, 1.8 ft³/s (0.051 m³/s) Oct. 31, 1942, during repairs to small dam upstream from station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1937 reached a stage of 22.5 ft (6.86 m), from information by local residents, discharge, 19,000 ft³/s (538 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,200 ft³/s (119 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Nov. 26	2230	5220	148	11.75	3.581	Mar. 22	0930	6950	197	13.57	4.136
Dec. 26	0900	6130	174	12.76	3.889	Apr. 5	2300	4300	122	10.65	3.246
Mar. 9	0530	*8130	230	*14.56	4.438	June 5	0430	7860	223	14.35	4.374

Minimum daily discharge, 50 ft³/s (1.42 m³/s) Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	108	951	565	145	430	3090	212	228	172	168	258
2	146	117	673	470	135	350	2570	196	1230	134	139	139
3	126	134	497	397	130	310	1660	175	4900	113	125	100
4	133	168	413	345	125	285	2100	165	6490	115	100	92
5	328	183	373	313	120	310	4040	151	7390	531	115	97
6	683	152	371	269	115	370	3850	146	4790	1170	190	144
7	673	137	410	267	110	1100	2210	141	1710	1010	175	142
8	485	129	441	271	110	3500	1120	136	1040	441	149	102
9	347	131	410	267	110	7200	926	131	918	311	228	79
10	280	230	355	256	110	6000	1190	129	659	506	308	72
11	265	378	315	458	110	4800	1420	125	424	556	200	69
12	271	543	269	2470	108	3900	1140	136	320	458	249	72
13	278	303	276	2430	108	1530	1040	185	265	524	376	71
14	262	280	262	1550	108	902	1130	236	226	715	328	75
15	243	230	247	839	105	652	3450	236	222	659	245	64
16	218	204	234	585	105	531	3740	200	1290	333	236	60
17	202	188	208	556	105	582	2760	175	1290	202	313	58
18	194	179	170	708	105	2080	1510	503	858	146	260	53
19	196	170	200	759	105	2700	878	1040	430	117	427	53
20	194	166	202	625	105	2160	628	955	292	97	572	54
21	190	158	179	460	160	3120	503	591	228	82	902	53
22	177	159	320	350	1040	6670	421	386	187	165	1740	50
23	168	611	1520	280	3360	6620	378	289	161	491	1810	75
24	159	2440	3410	240	3800	5510	345	333	144	371	1160	128
25	152	3510	5640	205	2430	3940	303	1410	134	212	534	85
26	146	4900	5980	180	1800	3310	273	1500	129	151	296	107
27	137	4990	5310	205	1020	2360	241	910	120	122	226	91
28	133	4600	3170	230	500	1450	232	464	115	108	181	70
29	126	3000	1450	205	440	1130	234	311	126	100	168	59
30	118	1610	922	180	---	1600	222	245	166	230	151	57
31	110	---	701	160	---	2240	---	220	---	299	258	---
TOTAL	7299	30168	35899	17095	16824	77642	43604	12032	36482	10641	12329	2629
MEAN	235	1006	1158	551	580	2505	1453	388	1216	343	398	87.6
MAX	683	4990	5980	2470	3800	7200	4040	1500	7390	1170	1810	258
MIN	110	108	170	160	105	285	222	125	115	82	100	50
CFSM	.30	1.30	1.50	.71	.75	3.24	1.88	.50	1.57	.44	.51	.11
IN.	.35	1.45	1.73	.82	.81	3.73	2.10	.58	1.75	.51	.59	.13

CAL YR 1979 TOTAL 323599 MEAN 887 MAX 11100 MIN 50 CFSM 1.15 IN 15.55
WTR YR 1980 TOTAL 302644 MEAN 827 MAX 7390 MIN 50 CFSM 1.07 IN 14.55

04197020 HONEY CREEK NEAR NEW WASHINGTON, OH

LOCATION.--Lat 40°57'37", long 82°47'19", in SE 1/4, sec. 7, T.22 N., R.20 W., Crawford County, Hydrologic Unit 04100011, on left bank 250 ft (76 m) downstream from State Route 103 bridge and 3.4 mi (5.5 km) east of New Washington.

DRAINAGE AREA.--17 mi^2 (44.0 km^2).

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 940.00 ft (286.512 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter periods and periods of no gage-height record, June 12 to July 29, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1150 ft^3/s (32.6 m^3/s) June 21, 1979, gage height, 17.87 ft (5.447 m), from rating curve extended above 155 ft^3/s (4.39 m^3/s) on basis of step backwater analysis; minimum, 0.02 ft^3/s (0.001 m^3/s) Sept. 21, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft^3/s (7.08 m^3/s) and maximums (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Nov. 26	0915	320	9.06	13.92	4.243	Mar. 21	1230	349	9.88	14.35	4.374
Dec. 24	1415	353	10.0	14.16	4.316	Apr. 4	0500	295	8.35	13.87	4.228
Mar. 8	0530	628	17.8	15.97	4.868	May 25	0100	*908	25.7	*17.21	5.246

Minimum discharge, .02 ft^3/s (0.001 m^3/s) Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.0	13	9.3	4.1	7.4	42	4.9	15	5.0	1.1	1.7
2	3.7	3.7	10	8.4	3.9	7.2	26	4.5	97	3.4	.71	.71
3	3.6	6.2	8.9	7.8	3.7	7.2	26	4.4	114	3.1	4.1	.58
4	18	5.2	8.4	7.5	3.5	7.4	140	4.1	42	15	27	.51
5	41	4.5	8.9	7.3	3.4	18	54	3.9	24	75	11	1.9
6	15	4.3	11	6.6	3.4	38	30	3.9	18	50	5.9	1.1
7	9.4	4.3	13	6.4	3.3	32	21	3.7	20	26	2.8	.51
8	7.4	4.1	11	6.0	3.2	424	25	3.0	53	10	1.5	.35
9	6.7	4.8	9.4	5.9	3.0	112	68	2.7	20	19	.94	.40
10	6.2	24	8.7	5.5	2.9	84	65	2.6	14	20	.64	1.0
11	6.0	11	8.0	90	2.8	55	30	2.7	10	17	1.3	.45
12	5.8	8.0	7.7	56	2.7	30	28	4.2	9.5	11	1.7	.25
13	5.6	7.0	7.7	16	2.6	23	24	4.9	9.0	17	1.1	.08
14	4.9	6.1	7.4	12	2.8	19	119	3.8	8.2	12	.78	.11
15	4.6	5.7	7.0	11	2.8	16	67	2.8	11	6.8	6.0	.08
16	4.4	5.8	6.9	10	2.9	18	44	2.3	52	4.7	5.6	.11
17	4.3	5.8	6.1	14	2.9	57	25	8.4	29	3.1	6.4	.45
18	4.3	5.7	5.9	14	2.9	68	19	35	14	2.2	29	.64
19	4.2	5.4	5.9	11	3.0	37	15	18	10	2.8	11	.30
20	4.1	5.1	5.7	9.6	3.9	26	13	12	7.0	2.6	51	.11
21	4.0	4.9	5.5	8.7	9.1	180	12	9.3	6.0	3.3	25	.06
22	3.9	5.2	16	8.4	146	83	11	7.4	5.0	7.0	31	.11
23	3.7	18	33	7.8	44	43	9.9	6.4	4.5	14	11	5.9
24	3.6	139	158	7.5	21	60	8.9	42	4.1	8.2	6.9	2.6
25	3.5	88	129	7.4	13	71	8.0	250	3.8	4.3	4.8	1.4
26	3.5	203	81	6.1	9.3	33	7.1	75	3.6	3.2	3.4	1.9
27	3.6	65	36	5.5	8.4	24	6.9	44	5.0	3.4	2.3	1.3
28	3.5	44	22	5.1	7.6	20	6.9	32	7.4	12	1.6	.86
29	3.3	27	15	4.8	7.4	43	6.4	26	8.0	30	1.1	.58
30	3.2	17	13	4.5	---	37	5.7	21	6.2	3.1	.78	.40
31	3.0	---	11	4.2	---	112	---	21	---	1.6	1.4	---
TOTAL	202.0	740.8	690.1	384.3	329.5	1792.2	963.8	665.9	630.3	395.8	258.85	26.45
MEAN	6.52	24.7	22.3	12.4	11.4	57.8	32.1	21.5	21.0	12.8	8.35	.88
MAX	41	203	158	90	146	424	140	250	114	75	51	5.9
MIN	3.0	3.0	5.5	4.2	2.6	7.2	5.7	2.3	3.6	1.6	.64	.06
CFSM	.38	1.45	1.31	.73	.67	3.40	1.89	1.27	1.24	.75	.49	.05
IN.	.44	1.62	1.51	.84	.72	3.92	2.11	1.46	1.38	.87	.57	.06

WTR YR 1980 TOTAL 7080.00 MEAN 19.3 MAX 424 MIN .06 CFSM 1.14 IN 15.49

04197100 HONEY CREEK AT MELMORE, OH

LOCATION.--Lat 41°01'20", long 83°06'35", Seneca County, Hydrologic Unit 04100011, at bridge on State Highways 67 and 100 at Melmore, 1.5 mi (2.4 km) upstream from Buckeye Creek.

DRAINAGE AREA.--149 mi² (386 km²).

PERIOD OF RECORD.--Annual maximum, water years 1961-75, February 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 818 ft (250 m) from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record Dec. 20 to Apr. 11, July 5-17, Aug. 20 to Sept. 30, which are poor. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 3,850 ft³/s (109 m³/s) March 1963; maximum gage height, 10.58 ft (3.225 m) March 1963 (ice jam); minimum discharge 0.58 ft³/s (0.016 m³/s) Sept. 11, 28, 29, 30, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge above base of 1,500 ft³/s (42.5 m³/s), 1,800 ft³/s (51.0 m³/s), Mar. 9. Minimum daily discharge 5.1 ft³/s (0.14 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	12	178	98	23	47	600	28	76	20	10	21
2	17	14	135	75	20	38	220	25	248	13	7.9	18
3	14	14	98	60	17	36	195	23	612	9.6	8.9	16
4	17	25	74	55	15	36	640	21	560	13	9.2	19
5	68	25	68	50	14	36	1000	21	278	310	35	40
6	148	21	72	41	13	250	350	20	134	770	25	28
7	112	19	94	46	12	230	220	19	85	360	16	14
8	68	17	102	40	11	660	150	18	266	120	10	15
9	46	18	88	36	11	1700	430	17	283	60	7.2	18
10	36	60	72	34	10	470	460	16	131	195	5.2	19
11	31	105	63	105	10	260	280	16	68	160	7.0	18
12	28	80	58	600	10	155	201	18	44	66	32	17
13	27	52	55	205	10	130	183	23	33	120	22	16
14	27	40	51	135	10	105	517	28	27	60	13	17
15	26	34	48	110	10	82	771	27	28	23	8.8	16
16	23	30	45	97	10	76	537	23	47	14	6.9	16
17	23	29	37	92	10	150	276	27	98	10	12	17
18	22	29	43	98	10	270	166	171	63	8.2	18	13
19	21	28	36	90	10	450	115	278	36	7.4	48	11
20	20	26	34	74	20	210	87	163	28	6.2	173	9.4
21	19	25	37	64	120	640	72	89	27	5.1	720	8.6
22	18	27	45	51	1350	1000	61	60	21	100	500	12
23	16	288	80	45	750	290	53	45	16	241	320	38
24	15	748	580	40	370	290	48	74	14	100	170	24
25	15	801	840	46	120	475	42	139	12	38	110	19
26	15	1310	1140	36	94	550	38	339	11	20	64	21
27	16	1240	977	32	72	240	35	192	10	13	45	16
28	15	827	520	30	56	145	34	103	8.6	11	33	12
29	14	504	270	29	50	190	34	69	8.2	14	28	11
30	13	283	180	27	---	280	30	54	27	23	25	10
31	12	---	135	25	---	440	---	65	---	16	23	---
TOTAL	960	6731	6255	2566	3238	9931	7845	2211	3299.8	2926.5	2513.1	530.0
MEAN	31.0	224	202	82.8	112	320	262	71.3	110	94.4	81.1	17.7
MAX	148	1310	1140	600	1350	1700	1000	339	612	770	720	40
MIN	12	12	34	25	10	36	30	16	8.2	5.1	5.2	8.6
CFSM	.21	1.50	1.36	.56	.75	2.15	1.76	.48	.74	.63	.54	.12
IN.	.24	1.68	1.56	.64	.81	2.48	1.96	.55	.82	.73	.63	.13

CAL YR 1979 TOTAL 72293.1 MEAN 198 MAX 3310 MIN 8.2 CFSM 1.33 IN 18.05
WTR YR 1980 TOTAL 49006.4 MEAN 134 MAX 1700 MIN 5.1 CFSM .90 IN 12.24

04197300 WOLF CREEK AT BETTSVILLE, OH

LOCATION.--Lat 41°14'58", long 83°14'08", Seneca County, Hydrologic Unit 04100011, at bridge on State Highway 590 at Bettsville, 3.5 mi (5.6 km) upstream from East Branch.

DRAINAGE AREA.--66.2 mi² (171.5 km²).

PERIOD OF RECORD.--Annual maximum, water years 1961-75. February 1976 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 690 ft (210 m) from topographic map.

REMARKS.--Records good except those for winter periods, which are poor. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 4,280 ft³/s (121 m³/s) Feb. 27, 1962, gage height, 8.0 ft (2.438 m); minimum recorded discharge, 0.08 ft³/s (0.002 m³/s) Sept. 29, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft³/s (17.0 m³/s) revised, and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	0130	1230	34.8	6.09	1.856
Jan. 12	0130	610	17.3	5.07	1.545
Mar. 21	1900	*1590	45.0	*6.55	1.996
Mar. 31	1130	652	18.5	5.15	1.570
Apr. 15	0030	790	22.4	5.39	1.643

Minimum daily discharge, 0.38 ft³/s (0.011 m³/s) Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	3.7	39	33	8.8	16	225	13	9.8	2.3	.88	15
2	1.4	4.6	27	27	8.0	15	137	12	69	2.2	1.1	10
3	1.5	5.9	20	21	7.6	14	102	12	204	2.1	2.2	4.3
4	2.2	4.6	19	18	7.0	15	278	12	92	8.9	1.3	2.6
5	4.1	3.9	19	17	6.6	20	162	12	40	139	1.0	32
6	4.1	3.3	21	16	6.2	25	69	12	27	315	.88	23
7	4.1	3.5	22	13	6.0	40	62	12	31	75	.67	9.2
8	3.9	3.5	19	12	5.8	361	50	10	244	30	.54	4.9
9	3.1	4.1	15	11	5.7	191	86	9.4	98	25	.44	3.3
10	2.8	22	14	9.6	5.6	166	119	8.8	43	100	.38	2.7
11	2.8	28	14	188	5.6	136	61	9.9	22	40	.44	1.9
12	3.0	15	13	376	5.5	61	84	11	15	17	1.0	1.5
13	2.8	10	12	115	5.5	45	92	12	12	27	1.5	1.4
14	2.6	7.8	10	58	5.4	33	324	13	11	17	1.3	1.4
15	2.5	6.1	8.8	45	5.4	23	434	9.7	11	8.9	1.3	1.2
16	2.3	5.6	9.0	38	5.4	29	173	7.8	28	5.9	.94	1.1
17	2.6	4.8	9.3	64	5.4	239	100	10	34	4.3	.82	1.7
18	2.8	4.6	7.4	75	5.4	402	66	182	17	3.1	2.1	1.7
19	3.0	4.1	7.3	50	5.4	186	49	127	13	2.5	1.8	1.5
20	3.3	3.9	7.7	37	6.8	130	39	64	17	2.1	23	1.3
21	3.9	3.7	6.7	30	8.0	970	31	38	11	1.8	53	1.1
22	3.9	3.7	137	26	170	824	26	25	8.2	4.8	329	.99
23	4.3	101	409	25	270	241	24	19	6.2	7.4	104	1.2
24	4.3	404	652	46	122	176	20	25	6.2	4.3	28	1.1
25	4.6	233	885	35	54	268	17	61	5.6	2.6	10	1.0
26	4.6	391	461	17	38	139	14	26	4.6	1.8	4.6	1.1
27	4.6	204	192	12	28	90	13	16	4.1	1.5	2.6	.88
28	4.3	140	113	11	19	69	17	12	3.5	1.6	1.7	.72
29	4.1	114	73	9.7	17	196	18	11	3.1	2.2	1.3	.70
30	3.9	60	55	8.6	---	197	15	9.9	2.8	4.1	1.1	.62
31	3.7	---	42	9.0	---	475	---	10	---	2.2	5.1	---
TOTAL	102.6	1803.4	3339.2	1453.1	849.1	5792	2947	812.5	1093.1	861.6	583.99	131.11
MEAN	3.31	60.1	108	46.9	29.3	187	98.2	26.2	36.4	27.8	18.8	4.37
MAX	4.6	404	885	376	270	970	434	182	244	315	329	32
MIN	1.4	3.3	6.7	8.6	5.4	14	13	7.8	2.8	1.5	.38	.62
CFSM	.05	.91	1.63	.71	.44	2.83	1.48	.40	.55	.42	.28	.07
IN.	.06	1.01	1.88	.82	.48	3.25	1.66	.46	.61	.48	.33	.07

CAL YR 1979 TOTAL 23365.10 MEAN 64.0 MAX 1380 MIN 1.4 CFSM .97 IN 13.13
WTR YR 1980 TOTAL 19768.70 MEAN 54.0 MAX 970 MIN .38 CFSM .82 IN 11.11

04197450 EAST BRANCH WOLF CREEK NEAR BETTSVILLE, OH

LOCATION.--Lat 41°15'40", long 83°11'04", in SW 1/4 sec. 31, T.4N., R.15E., Sandusky County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on Gilmore Road, 2.7 mi (4.3 km) northeast of Bettsville, 0.9 mi (1.4 km) upstream from mouth.

DRAINAGE AREA.--82.4 mi² (213 km²).

PERIOD OF RECORD.--February 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 657.67 ft (200.458 m) revised, Sandusky County bench mark.

REMARKS.--Records good except those for winter periods, which are fair. Water-quality data collected at this site 1976 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,890 ft³/s (110 m³/s) Mar. 16, 1978, gage height, 11.09 ft (3.380 m); minimum discharge, 0.12 ft³/s (0.003 m³/s) Aug. 4, 5, 1977, Nov. 13, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,300 ft³/s (36.8 m³/s) and maximums (*).

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	800	1340	37.9	7.99	2.435
Mar. 22	0330	*1960	55.5	*8.82	2.688

Minimum daily discharge, 1.5 ft³/s (0.04 m³/s) Sept. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	5.9	54	43	9.2	18	289	21	59	5.3	6.7	8.7
2	3.5	7.7	42	37	8.0	17	135	19	131	5.3	6.7	10
3	3.3	11	30	32	7.2	17	98	17	457	5.1	11	10
4	4.6	11	30	28	6.8	17	359	17	178	23	8.3	8.7
5	18	11	28	26	6.4	19	249	17	72	121	6.1	8.0
6	27	9.0	27	23	6.1	35	110	17	47	376	6.1	21
7	19	9.0	29	27	5.8	76	72	17	43	95	5.9	16
8	37	7.3	29	30	5.7	417	56	17	203	44	3.5	10
9	23	7.3	25	17	5.6	366	100	17	127	33	2.6	6.7
10	17	33	23	15	5.6	145	171	16	61	46	2.3	5.6
11	12	70	23	100	5.6	131	109	15	34	40	2.4	4.8
12	11	34	22	453	5.5	64	89	15	24	25	4.8	3.9
13	10	24	20	145	5.4	49	112	19	19	23	6.7	3.5
14	11	18	18	66	5.4	40	255	22	16	24	7.7	3.7
15	11	15	17	51	5.4	30	604	18	16	15	7.0	3.7
16	8.3	13	16	44	5.4	27	200	15	24	9.8	6.7	3.1
17	8.3	13	21	48	5.4	86	114	14	55	7.0	5.1	2.6
18	9.4	12	14	68	5.4	332	77	90	29	5.3	7.0	2.4
19	9.4	11	13	59	5.4	149	56	137	20	4.6	7.7	2.6
20	9.4	9.8	13	48	5.8	102	46	77	22	4.1	31	2.8
21	12	9.8	13	41	11	730	39	50	18	3.5	89	2.6
22	11	11	72	35	178	1350	34	37	15	6.1	221	2.1
23	8.0	141	472	30	366	276	31	29	12	11	83	1.9
24	8.0	524	565	28	119	160	27	25	11	9.0	34	1.7
25	8.0	349	1140	25	66	322	24	107	72	5.6	19	1.5
26	9.0	540	587	29	44	151	21	100	30	4.4	13	1.5
27	9.8	326	200	22	31	97	19	44	18	3.5	9.8	2.4
28	9.8	125	112	17	24	74	21	28	12	3.1	7.0	2.6
29	7.3	137	77	14	21	141	23	21	9.4	4.4	5.9	2.8
30	6.7	77	60	12	---	216	23	18	7.0	8.0	5.6	2.4
31	6.7	---	50	11	---	465	---	48	---	9.4	8.3	---
TOTAL	352.0	2571.8	3842	1624	981.1	6119	3563	1104	1841.4	979.5	640.9	159.3
MEAN	11.4	85.7	124	52.4	33.8	197	119	35.6	61.4	31.6	20.7	5.31
MAX	37	540	1140	453	366	1350	604	137	457	376	221	21
MIN	3.3	5.9	13	11	5.4	17	19	14	7.0	3.1	2.3	1.5
CFSM	.14	1.04	1.51	.64	.41	2.39	1.44	.43	.75	.38	.25	.06
IN.	.16	1.16	1.73	.73	.44	2.76	1.61	.50	.83	.44	.29	.07

CAL YR 1979 TOTAL 31007.4 MEAN 85.0 MAX 1730 MIN 3.1 CFSM 1.03 IN 14.00
WTR YR 1980 TOTAL 23776.0 MEAN 65.0 MAX 1350 MIN 1.5 CFSM .79 IN 10.73

04198000 SANDUSKY RIVER NEAR FREMONT, OH
(National stream quality accounting network station)

LOCATION.--Lat 41°18'28", long 83°09'32", in sec. 17, T.4 N., R.15 E., Sandusky County, Hydrologic Unit 04100011, on left bank at downstream side of county road bridge, 2.3 mi (3.7 km) upstream from Ballville Diversion dam, 2.5 mi (4.0 km) downstream from Wolf Creek, and 3.5 mi (5.6 km) southwest of Fremont.

DRAINAGE AREA.--1,251 mi² (3,240 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to March 1901 (gage height and discharge measurements only, published at "at Fremont"), October 1923 to December 1935, July 1938 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 744: 1931-32. WSP 874: 1938. WSP 1144: 1924-30. WSP 1387: 1925, 1928-29, 1931-35. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 626.3 ft (190.90 m) National Geodetic Vertical Datum, adjustment of 1912. Nov. 18, 1898, to Mar. 10, 1901, nonrecording gage at site 4 mi (6 km) downstream at different datum. Nov. 8, 1923, to Sept. 5, 1930, nonrecording gage at present site and datum.

REMARKS.--Records good except those for winter periods, which are poor.

AVERAGE DISCHARGE.--54 years (1923-35, 1938-80), 967 ft³/s (27.39 m³/s), 10.50 in/yr (267 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,500 ft³/s (1034 m³/s) Mar. 16, 1978 gage height, 13.57 ft (4.136 m); maximum gage height, 16.14 ft (4.919 m) Feb. 24, 1979, (ice jam); minimum discharge, 4.4 ft³/s (0.12 m³/s) Feb. 29, 1964 (result of freezeup); minimum gage height, 0.78 ft (0.238 m) Oct. 20, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximums(*):

		Discharge		Gage	height			Discharge		Gage	height
Date	Time	(ft³/s)	(m³/s)	(ft)	(m)	Date	Time	(ft³/s)	(m³/s)	(ft)	(m)
Nov. 26	1930	9240	262	5.69	1.734	Mar. 9	1100	*16000	453	*9.38	2.859
Dec. 25	0830	11400	323	6.43	1.960	Mar. 22	0630	15100	428	7.64	2.329
Feb. 23	0030	ice	jam	9.29	2.832	Apr. 15	0630	7750	219	5.18	1.579
Feb. 24	---	8000	227	---	---	June 5	1100	9110	258	5.64	1.719

Minimum daily discharge, 78 ft³/s (2.21 m³/s) Sept. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	171	1800	1010	240	680	5580	300	458	257	306	493
2	202	185	1250	824	225	560	4210	269	718	281	212	346
3	177	192	893	685	210	500	2740	245	5900	240	197	214
4	187	211	709	594	200	465	4630	229	7660	212	163	166
5	269	264	628	520	195	480	6390	207	8970	542	145	250
6	706	269	595	455	190	590	5410	197	6910	2570	182	250
7	1040	235	632	425	185	840	3320	182	3360	2120	229	237
8	841	212	691	435	180	6400	1880	172	2490	1240	187	201
9	586	210	681	435	180	15000	1840	168	2060	587	150	157
10	452	309	603	455	180	10500	2370	163	1500	791	306	135
11	384	600	531	821	180	8000	2560	163	895	936	287	116
12	370	809	483	4200	178	5740	2110	163	625	816	234	104
13	369	679	449	3830	175	2560	1940	212	499	634	374	101
14	365	503	425	2820	175	1510	3240	263	419	908	458	101
15	343	407	398	1640	175	1080	7110	306	389	936	353	93
16	321	352	376	1060	172	862	5750	293	992	673	275	88
17	295	319	378	946	173	1340	4140	287	1810	382	313	89
18	274	303	649	1140	173	4270	2400	791	1580	251	411	98
19	272	289	293	1230	174	4440	1510	2230	881	192	326	86
20	266	279	319	1060	190	3490	1110	2160	578	158	1040	80
21	263	269	305	831	250	8360	868	1510	434	133	1500	82
22	255	268	558	688	1000	13400	695	922	353	158	2980	78
23	237	765	3140	500	4200	9640	606	644	300	442	2940	78
24	223	4440	6000	440	7000	7560	542	516	257	868	2040	107
25	219	5810	11000	415	3000	6350	474	1690	339	450	1060	155
26	213	8180	10200	530	1600	5070	427	2640	263	269	547	129
27	205	8170	8100	530	1200	3660	374	1950	229	192	365	150
28	197	6940	5490	400	820	2350	382	1090	207	163	271	132
29	190	5250	2820	350	760	2280	360	663	197	150	219	107
30	181	3050	1710	310	---	3290	320	500	202	154	195	96
31	175	---	1290	265	---	5360	---	450	---	339	278	---
TOTAL	10249	49940	63396	29846	23580	136627	75294	21575	51475	18044	18543	4519
MEAN	331	1665	2045	963	813	4407	2510	696	1716	582	598	151
MAX	1040	8180	11000	4200	7000	15000	7110	2640	8970	2570	2980	493
MIN	172	171	293	265	172	465	326	163	197	133	145	78
CFSM	.27	1.33	1.64	.77	.65	3.52	2.01	.56	1.37	.47	.48	.12
IN.	.30	1.49	1.89	.89	.70	4.06	2.24	.64	1.53	.54	.55	.13

CAL YR 1979 TOTAL 549655 MEAN 1506 MAX 16000 MIN 82 CFSM 1.20 IN 16.34
WTR YR 1980 TOTAL 503088 MEAN 1375 MAX 15000 MIN 78 CFSM 1.10 IN 14.96

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 01...	1400	177	660	8.8	22.0	30	16.5	190	37	250	110
NOV 07...	1230	234	825	8.7	7.5	6.0	11.1	92	16	130	K44
DEC 04...	1300	706	635	8.4	2.0	10	11.9	86	16	1000	500
JAN 07...	1200	396	747	8.5	.5	.90	14.9	100	19	68	68
FEB 06...	1015	190	930	8.1	1.5	1.4	13.0	93	19	180	K10
MAR 04...	0950	465	670	7.5	.0	1.0	15.1	100	19	33	65
APR 08...	1145	1830	500	7.9	9.5	6.8	11.2	97	49	2000	480
MAY 08...	1400	172	705	8.4	15.0	8.5	12.8	120	25	44	16
JUN 05...	1215	9220	342	7.5	21.0	31	7.2	80	83	3600	1400
JUL 01...	1045	251	680	8.4	24.0	55	11.8	140	33	520	130
AUG 06...	1200	172	630	8.3	29.0	34	11.4	150	34	170	200
SEP 09...	1200	158	550	8.5	21.0	.60	7.6	84	--	130	270

DATE	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)
OCT 01...	290	150	72	27	19	3.9	140	.4	120	32	.4
NOV 07...	420	170	110	35	25	3.7	250	--	160	38	.4
DEC 04...	320	130	90	24	13	3.1	190	--	95	34	.3
JAN 07...	370	150	100	28	15	2.9	220	--	120	36	.3
FEB 06...	450	180	120	36	20	3.0	270	--	190	43	.4
MAR 04...	320	140	87	24	14	3.0	180	--	120	33	.3
APR 08...	220	94	60	18	9.9	2.7	130	--	64	22	.3
MAY 08...	310	150	76	30	20	2.6	160	--	140	36	.4
JUN 05...	140	79	39	10	4.0	3.4	60	--	31	12	.3
JUL 01...	280	95	62	30	18	3.7	160	--	120	35	.4
AUG 06...	340	140	93	27	19	4.1	200	--	120	32	.5
SEP 09...	250	90	67	20	16	4.6	160	--	75	24	.4

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 01...	1.7	404	364	1.8	1.9	2.7	12	.080	--	--	--
NOV 07...	1.2	556	527	.59	.66	1.3	5.8	.060	8.1	7200	--
DEC 04...	9.4	445	405	.77	.94	6.2	28	.140	6.9	--	--
JAN 07...	7.7	494	459	.97	.99	6.1	27	.080	--	--	--
FEB 06...	4.8	629	593	.41	.55	5.3	23	.070	1.9	--	--
MAR 04...	5.5	488	415	.90	1.1	5.8	26	.100	4.8	100	--
APR 08...	6.8	365	286	1.2	1.3	16	72	.190	--	--	--
MAY 08...	.2	480	406	1.2	1.3	2.4	11	.180	9.4	17000	--
JUN 05...	6.7	294	209	4.3	4.4	19	86	.870	18	1400	--
JUL 01...	4.6	436	376	1.4	1.5	4.2	19	.190	--	84000	--
AUG 06...	6.8	480	427	.77	.82	1.8	7.8	.200	6.5	46000	--
SEP 09...	7.9	342	311	--	--	--	--	--	--	25000	17.6

ANALYSES OF MINOR ELEMENTS

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
OCT 01...	1400	1	1	100	60	0	0	40	20
NOV 07...	1230	--	--	--	--	--	--	--	--
JAN 07...	1200	1	1	100	60	0	0	30	10
FEB 06...	1015	--	--	--	--	--	--	--	--
APR 08...	1145	2	1	100	60	3	3	30	10
MAY 08...	1400	--	--	--	--	--	--	--	--
JUL 01...	1045	3	2	60	60	3	3	30	<10
AUG 06...	1200	--	--	--	--	--	--	--	--

DATE	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT 01...	0	0	5	5	1300	0	1	1	70
NOV 07...	--	--	--	--	--	--	--	--	--
JAN 07...	1	1	3	3	70	10	1	0	30
FEB 06...	--	--	--	--	--	--	--	--	--
APR 08...	3	0	12	7	11000	70	7	0	130
MAY 08...	--	--	--	--	--	--	--	--	--
JUL 01...	0	0	7	5	3000	250	8	1	130
AUG 06...	--	--	--	--	--	--	--	--	--

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT									
01...	3	<.5	<.5	0	0	0	0	20	20
NOV									
07...	--	--	--	--	--	0	--	--	--
JAN									
07...	20	.4	.3	0	0	1	0	60	40
FEB									
06...	--	--	--	--	--	0	--	--	--
APR									
08...	10	.1	.1	1	0	0	0	70	70
MAY									
08...	--	--	--	--	--	0	--	--	--
JUL									
01...	20	<.1	<.1	0	0	0	0	30	20
AUG									
06...	--	--	--	--	--	0	--	--	--

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT ANALYSES

PERIOD OF RECORD.--Water years 1950-56, 1978 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: Water years 1950-1956, 1979 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,450 mg/L Feb. 26, 1956; minimum daily mean, 1 mg/L on many days during 1952-1956, and Jan. 10, 1980.
SEDIMENT LOADS: Maximum daily, 50,500 tons (45,800 tonnes) Apr. 14, 1979; minimum daily, less than 0.05 ton (.045 tonne) on several days during 1952 and 1954.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, mean, 1,230 mg/L June 3; minimum daily mean, 1 mg/L Jan. 10.
SEDIMENT LOADS: Maximum daily, 39,330 tons (35,700 tonnes) Mar. 9; minimum daily, 1.20 tons (1.09 tonnes) Jan. 10.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
MAR							
22...	1300	13600	845	31000	69	84	91
APR							
15...	1015	6690	573	10400	72	83	88
JUN							
05...	0820	12000	915	29600	70	87	91
JUL							
06...	1045	2920	623	4910	61	80	90

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
MAR							
22...	96	98	98	99	100	--	--
APR							
15...	92	94	95	97	99	99	100
JUN							
05...	95	96	98	99	100	--	--
JUL							
06...	97	98	98	99	100	--	--

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
01...	1400	177	22.0	60	29
NOV					
07...	1230	234	7.5	20	13
DEC					
04...	1300	706	2.0	18	34
JAN					
07...	1200	396	.5	5	5.3
FEB					
06...	1015	190	1.5	14	7.2
MAR					
04...	0950	465	.0	12	15
APR					
08...	1145	1830	9.5	190	939
MAY					
08...	1400	172	15.0	19	8.8
JUN					
05...	1215	9220	21.0	915	22800
JUL					
01...	1045	251	24.0	107	73
AUG					
06...	1200	172	29.0	50	23
SEP					
09...	1200	156	21.0	52	22

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	172	70	33	171	18	8.3	1800	43	209
2	202	57	31	185	16	8.0	1250	30	101
3	177	50	24	192	13	6.7	893	20	48
4	187	62	31	211	9	5.1	709	14	27
5	269	73	53	264	13	9.3	628	13	22
6	706	70	133	269	24	17	595	8	13
7	1040	63	177	235	17	11	632	7	12
8	841	53	120	212	17	9.7	691	6	11
9	586	42	66	210	11	6.2	681	4	7.4
10	452	42	51	309	17	14	603	4	6.5
11	384	38	39	600	37	60	531	4	5.7
12	370	37	37	809	28	61	483	5	6.5
13	369	38	38	679	13	24	449	6	7.3
14	365	32	32	503	7	9.5	425	5	5.7
15	343	28	26	407	7	7.7	398	4	4.3
16	321	27	23	352	7	6.7	376	4	4.1
17	295	25	20	319	4	3.4	378	3	3.1
18	274	18	13	303	5	4.1	649	2	3.5
19	272	21	15	289	6	4.7	293	2	1.6
20	266	17	12	279	7	5.3	319	3	2.6
21	263	18	13	269	8	5.8	305	6	4.9
22	255	22	15	268	9	6.5	558	16	24
23	237	21	13	765	43	143	3140	122	1090
24	223	18	11	4440	164	2030	6000	205	3740
25	219	13	7.7	5810	217	3400	11000	355	10500
26	213	15	8.6	8180	254	5680	10200	218	6000
27	205	25	14	8170	230	5070	8100	158	3460
28	197	28	15	6940	196	3670	5490	98	1450
29	190	28	14	5250	128	1810	2820	67	510
30	181	27	13	3050	72	593	1710	47	217
31	175	23	11	---	---	---	1290	33	115
TOTAL	10249	---	1109.3	49940	---	22590.0	63396	---	27617.2

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	1010	23	63	240	52	34	680	95	174
2	824	17	38	225	53	32	560	86	130
3	685	12	22	210	51	29	500	78	105
4	594	8	13	200	50	27	465	76	95
5	520	5	7.0	195	49	26	480	77	100
6	455	4	4.9	190	49	25	590	33	53
7	425	3	3.4	185	48	24	840	63	143
8	435	2	2.3	180	47	23	6400	710	12300
9	435	2	2.3	180	47	23	15000	970	39300
10	455	1	1.2	180	47	23	16500	570	16200
11	821	31	114	180	47	23	8000	520	11200
12	4200	237	2670	178	48	23	5740	297	4770
13	3830	280	2900	175	47	22	2560	178	1270
14	2820	186	1450	175	47	22	1510	120	489
15	1640	103	456	175	47	22	1080	87	254
16	1060	75	215	172	45	21	862	72	168
17	948	60	154	173	45	21	1340	104	410
18	1140	38	117	173	45	21	4270	240	2800
19	1230	25	83	174	47	22	4440	168	2010
20	1060	20	57	190	49	25	3490	132	1240
21	831	15	34	250	55	37	8360	950	28300
22	688	11	20	1000	124	335	13400	844	31500
23	500	10	13	4200	379	4300	9640	555	14400
24	440	9	11	7000	524	9900	7560	435	8880
25	415	8	9.0	3000	290	2350	6350	297	5090
26	530	6	8.6	1600	171	739	5070	302	4130
27	530	5	7.2	1200	139	450	3660	252	2490
28	400	5	5.4	820	106	239	2350	148	939
29	350	65	61	760	102	209	2280	88	542
30	310	60	50	---	---	---	3290	95	844
31	265	56	40	---	---	---	5360	249	3770
TOTAL	29846	---	8632.3	23580	---	19047	136627	---	194096

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	5580	240	3620	300	28	23	458	115	142
2	4210	206	2340	269	25	18	718	172	355
3	2740	162	1200	245	30	20	5900	1230	21000
4	4630	426	6690	229	35	22	7660	1070	22100
5	6390	856	14800	207	38	21	8970	820	19900
6	5410	580	8470	197	31	16	6910	440	8210
7	3320	385	3450	182	29	14	3360	330	3020
8	1880	225	1140	172	22	10	2490	470	3160
9	1840	138	686	168	20	9.1	2060	305	1700
10	2370	150	960	163	19	8.4	1500	245	992
11	2560	181	1250	163	23	10	895	175	423
12	2110	158	900	163	25	11	625	135	228
13	1940	120	629	212	35	20	499	104	140
14	3240	207	2350	263	35	25	419	93	105
15	7110	610	11700	306	35	29	389	103	108
16	5750	438	6800	293	40	32	992	139	461
17	4140	280	3130	287	51	40	1810	535	2610
18	2400	160	1040	791	66	138	1580	540	2300
19	1510	92	375	2230	77	464	881	300	714
20	1110	77	231	2160	78	455	578	220	343
21	868	59	130	1510	69	281	434	162	190
22	695	48	90	922	55	137	353	125	119
23	606	38	62	644	42	73	300	99	80
24	542	37	54	516	35	49	257	77	53
25	474	36	46	1690	217	1240	339	128	117
26	427	46	53	2640	840	5990	263	110	78
27	374	45	45	1950	475	2590	229	77	48
28	382	36	37	1090	234	689	207	53	30
29	360	28	27	663	268	480	197	45	24
30	326	38	33	500	145	196	202	57	31
31	---	---	---	450	120	146	---	---	---
TOTAL	75294	---	72346	21575	---	13256.5	51475	---	88781
		JULY			AUGUST			SEPTEMBER	
1	257	102	71	306	88	73	493	100	133
2	281	98	74	212	77	44	346	65	61
3	240	75	49	197	62	33	214	41	24
4	212	77	44	163	56	25	166	45	20
5	542	238	482	145	54	21	250	63	43
6	2570	607	4210	182	58	29	250	70	47
7	2120	485	2780	229	77	48	237	67	43
8	1240	445	1490	187	62	31	201	60	33
9	587	355	563	150	55	22	157	53	22
10	791	305	651	306	98	81	135	40	15
11	936	264	667	287	110	85	116	31	9.7
12	816	202	445	234	100	63	104	28	7.9
13	634	190	325	374	104	105	101	28	7.6
14	908	228	559	458	115	142	101	30	8.2
15	936	262	662	353	123	117	93	26	6.5
16	673	285	518	275	127	94	88	21	5.0
17	382	215	222	313	128	108	89	27	6.5
18	251	187	127	411	107	119	98	23	6.1
19	192	173	90	326	90	79	86	23	5.3
20	158	120	51	1040	159	462	80	25	5.4
21	133	93	33	1500	180	729	82	28	6.2
22	158	145	62	2980	272	2190	78	27	5.7
23	442	164	196	2940	295	2340	78	32	6.7
24	868	140	328	2040	255	1400	107	72	21
25	450	114	139	1060	185	529	155	73	31
26	269	112	81	547	140	207	129	47	16
27	192	117	61	365	123	121	150	47	19
28	163	125	55	271	95	70	132	46	16
29	150	118	49	219	81	48	107	27	7.8
30	154	94	39	195	82	43	96	26	6.7
31	339	88	81	278	91	68	---	---	---
TOTAL	18044	---	15203	18543	---	9526	4519	---	645.3
YEAR	503088		472949.6						

04198005 SANDUSKY RIVER BELOW FREMONT, OH

LOCATION.--Lat 41°22'12", long 83°06'10", in NW 1/4 sec. 26, T.5 N., R.15 E., Sandusky County, Hydrologic Unit 04100011, on left bank 0.3 mi (0.5 km) downstream from U. S. Highway 20 bridge, 0.7 mi (1.1 km) downstream from Fremont Sewage plant, 7.0 mi (11.3 km) downstream from discharge station near Fremont, and 4.0 mi (6.4 km) upstream from Muskellunge Creek.

DRAINAGE AREA.--1,264 mi^2 (3,274 km^2).

PERIOD OF RECORD.--Water years 1966 to September 30, 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: September 1966 to September 30, 1980 (discontinued).
PH: September 1966 to September 30, 1980 (discontinued).
WATER TEMPERATURES: September 1966 to September 30, 1980 (discontinued).
DISSOLVED OXYGEN: September 1966 to September 30, 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for station near Fremont (station 04198000).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,500 micromhos Aug. 29, 30, 1974; minimum, 156 micromhos Apr. 26, 1972.
pH: Maximum, 11.5 units June 28, 1972; minimum, 4.8 units Apr. 26, 1970.
WATER TEMPERATURES: Maximum, 32.5°C Aug. 17, 1970; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 21.0 mg/L Sept. 11, 1979; minimum, 0.0 mg/L Oct. 14, 1970, Nov. 1-5, 1974, Aug. 25, 1975.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 935 micromhos Nov. 10; minimum, 180 micromhos Mar. 9, 10.
pH: Maximum 9.0 units Oct. 1, Dec. 8; minimum, 7.6 units Jan. 26, Feb. 29, Mar. 7, July 18.
WATER TEMPERATURES: Maximum, 29.5°C July 20; minimum, 0.0°C January 12.
DISSOLVED OXYGEN: Maximum, 17.0 mg/L Feb. 10; minimum, 2.6 mg/L Aug. 4.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	597	573	864	849	510	474	567	543	780	762	522	489
2	612	570	858	852	540	510	588	567	804	774	609	522
3	630	600	861	846	570	543	612	591	825	804	612	591
4	654	630	873	849	630	570	633	606	837	825	624	582
5	657	630	891	876	648	624	651	630	846	828	642	606
6	771	648	903	882	650	627	669	651	855	831	681	627
7	807	756	912	897	672	645	702	669	852	834	633	489
8	780	702	927	912	684	642	---	---	864	852	480	285
9	711	654	927	903	704	681	750	720	875	858	264	180
10	666	642	935	891	701	690	753	729	891	864	189	180
11	714	666	906	888	699	690	756	717	900	873	210	186
12	714	681	923	879	699	684	705	483	912	897	288	213
13	699	681	876	840	690	684	543	414	918	909	354	294
14	696	678	855	801	701	687	432	381	909	867	414	351
15	702	684	855	750	708	690	417	384	888	864	444	411
16	732	705	765	729	711	699	462	417	882	864	489	447
17	762	732	729	672	729	705	531	465	870	852	549	492
18	792	756	687	669	729	711	585	534	867	852	567	492
19	792	774	678	669	732	711	603	585	885	864	480	444
20	786	777	708	681	741	723	606	597	906	885	462	441
21	789	777	729	702	750	735	600	588	912	888	468	324
22	801	783	723	708	750	717	617	594	909	753	309	258
23	810	792	717	675	729	570	639	612	729	369	300	279
24	813	804	714	497	579	429	678	645	376	326	324	300
25	822	804	492	477	423	333	702	675	318	303	381	327
26	825	816	474	405	351	327	720	699	375	315	396	378
27	834	816	405	393	354	327	741	672	426	378	420	396
28	837	834	396	390	402	354	750	705	441	426	444	414
29	837	828	432	390	462	405	729	702	489	444	534	444
30	843	831	474	435	507	465	738	720	---	---	537	495
31	861	840	---	---	552	510	---	---	---	---	495	429
MONTH	861	570	935	390	750	327	756	381	918	303	681	180

04198005 SANDUSKY RIVER BELOW FREMONT, OH

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	435	390	672	609	534	507	585	492	462	408	498	456
2	417	396	624	582	552	543	597	513	495	411	558	498
3	435	408	630	585	585	381	621	519	552	498	561	537
4	480	402	621	558	381	324	594	507	570	546	591	513
5	411	327	594	537	336	276	642	507	576	483	594	537
6	333	315	618	525	327	243	---	---	651	510	609	534
7	372	333	645	585	387	318	---	---	648	567	609	501
8	432	375	687	579	---	---	468	294	645	555	630	534
9	516	441	702	663	---	---	408	339	651	579	588	495
10	531	516	672	573	513	489	372	336	600	540	570	531
11	525	495	638	519	534	504	426	378	579	567	603	528
12	507	489	681	570	540	528	441	408	606	564	603	528
13	519	501	642	504	552	528	459	432	639	561	555	504
14	522	456	669	594	576	552	480	447	669	558	597	504
15	435	342	681	582	594	573	474	447	654	564	621	546
16	357	339	684	504	594	537	471	423	612	516	657	567
17	360	348	669	510	651	516	435	378	513	462	636	603
18	408	360	630	597	507	363	426	381	501	453	642	615
19	480	411	681	657	507	438	414	393	501	474	654	597
20	501	483	642	603	480	450	432	381	639	501	681	579
21	546	483	630	603	471	447	468	390	633	522	687	579
22	567	546	624	609	477	450	489	462	540	384	720	591
23	597	570	639	615	507	468	513	468	414	357	717	657
24	624	594	642	627	540	510	516	453	360	333	732	666
25	642	621	639	624	567	534	558	504	366	336	789	714
26	657	630	630	381	588	528	522	462	384	360	780	750
27	669	639	471	405	606	555	483	423	426	363	753	675
28	663	645	507	441	609	528	534	432	450	408	735	654
29	669	648	525	504	606	483	579	507	471	432	723	660
30	681	657	522	504	618	393	543	453	477	444	726	666
31	---	---	522	504	---	---	498	369	504	459	---	---
MONTH	681	315	702	381	651	243	642	294	669	333	789	456
YEAR	935	180										

04198005 SANDUSKY RIVER BELOW FREMONT, OH

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.0	8.2	8.6	8.5	8.4	8.2	8.2	7.9	8.5	8.3	8.1	7.7
2	8.8	8.3	8.6	8.5	8.3	8.2	8.1	7.8	8.5	8.3	8.2	7.8
3	8.4	7.9	8.5	8.4	8.4	8.2	8.2	7.9	8.5	8.0	8.5	8.0
4	8.6	8.1	8.7	8.5	8.4	8.2	8.4	7.9	8.5	8.2	8.4	8.2
5	8.5	8.1	8.7	8.5	8.5	8.3	8.1	7.9	8.4	8.2	8.5	8.2
6	8.6	8.3	8.6	8.5	8.7	8.5	8.2	8.0	8.4	8.1	8.3	7.8
7	8.6	8.5	8.5	8.3	8.9	8.2	8.4	8.1	8.3	8.2	8.1	7.6
8	8.4	8.2	8.4	8.3	9.0	8.4	---	---	8.5	8.2	7.9	7.7
9	8.2	8.1	8.4	8.3	8.7	8.4	8.3	7.7	8.4	8.2	7.8	7.7
10	8.2	8.1	8.3	8.2	8.6	8.5	8.5	8.4	8.4	8.2	7.9	7.8
11	8.2	8.1	8.4	8.2	8.6	8.5	8.5	8.4	8.4	8.2	7.9	7.7
12	8.2	8.1	8.3	8.2	8.7	8.6	8.4	7.9	8.5	8.3	7.9	7.7
13	8.2	8.1	8.4	8.2	8.7	8.5	8.0	7.7	8.5	8.4	8.0	7.7
14	8.2	8.1	8.3	8.2	8.5	8.3	8.0	7.7	8.5	8.2	8.2	7.9
15	8.2	8.2	8.5	8.1	8.5	8.3	7.9	7.7	8.4	8.1	8.3	8.1
16	8.3	8.2	8.7	8.5	8.6	8.2	8.1	7.9	8.3	8.1	8.4	8.2
17	8.3	8.2	8.8	8.5	8.6	8.4	8.3	8.1	8.5	8.3	8.5	8.4
18	8.4	8.3	8.8	8.6	8.6	8.2	8.4	8.3	8.5	8.2	8.5	8.3
19	8.4	8.3	8.8	8.6	8.2	7.9	8.4	8.1	8.4	8.2	8.3	8.3
20	8.5	8.3	8.9	8.6	8.1	7.9	8.4	8.3	8.4	8.3	8.4	8.3
21	8.6	8.3	8.8	8.6	8.2	7.9	8.4	8.3	8.4	8.4	8.4	8.2
22	8.7	8.5	8.9	8.7	8.2	7.7	8.5	8.3	8.5	8.2	8.2	8.0
23	8.6	8.4	8.9	8.7	8.2	8.1	8.5	8.2	8.2	7.9	8.1	8.1
24	8.5	8.4	8.8	8.2	8.2	8.0	8.5	8.2	7.9	7.9	8.2	8.1
25	8.6	8.5	8.2	8.1	8.1	7.9	8.3	7.7	7.9	7.8	8.2	8.2
26	8.6	8.5	8.2	8.1	8.0	7.9	8.4	7.6	7.9	7.7	8.3	8.2
27	8.8	8.5	8.2	8.1	7.9	7.7	8.4	7.9	7.9	7.7	8.4	8.2
28	8.7	8.7	8.2	8.1	8.0	7.8	8.5	8.1	7.8	7.7	8.4	8.3
29	8.8	8.6	8.3	8.1	8.1	8.0	8.6	8.3	8.0	7.6	8.4	8.3
30	8.8	8.6	8.4	8.3	8.1	7.9	8.5	8.1	---	---	8.4	8.3
31	8.7	8.6	---	---	8.2	7.9	---	---	---	---	8.3	8.2
MONTH	9.0	7.9	8.9	8.1	9.0	7.7	8.6	7.6	8.5	7.6	8.5	7.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.2	8.1	8.8	8.6	8.2	7.9	8.7	8.2	8.3	7.9	8.2	7.8
2	8.2	8.1	8.7	8.3	8.2	8.1	8.8	8.3	8.6	8.2	8.3	8.1
3	8.2	8.1	8.7	8.5	8.3	8.1	8.8	8.4	8.2	7.9	8.2	8.1
4	8.2	8.1	8.8	8.5	8.0	7.9	8.6	8.3	8.2	8.0	8.8	8.0
5	8.0	7.9	8.7	8.5	8.0	7.9	8.6	8.1	8.9	8.0	8.7	8.0
6	8.0	7.9	8.8	8.4	8.0	7.9	---	---	8.7	8.0	8.6	8.3
7	8.0	7.9	8.6	8.3	8.1	7.9	---	---	8.5	8.1	8.7	8.3
8	8.1	8.0	8.5	8.2	---	---	8.1	7.9	8.7	8.1	8.5	8.2
9	8.1	8.0	8.5	8.2	---	---	8.0	7.9	8.5	8.2	8.9	8.2
10	8.1	8.0	8.5	8.3	8.3	8.2	7.9	7.7	8.5	8.1	8.8	8.3
11	8.0	7.9	8.7	8.3	8.3	8.2	8.0	7.9	8.4	8.1	8.7	8.4
12	8.1	8.0	8.6	8.5	8.3	8.2	8.1	7.9	8.7	8.0	8.8	8.4
13	8.1	8.0	8.6	8.3	8.3	8.2	8.1	8.0	8.6	8.2	8.9	8.4
14	8.1	7.9	8.5	8.2	8.4	8.2	8.1	8.0	8.5	8.1	8.9	8.3
15	7.9	7.7	8.8	8.3	8.4	8.2	8.2	7.7	8.6	8.2	8.8	8.4
16	7.9	7.8	8.8	8.4	8.5	8.1	8.2	8.0	8.6	8.2	8.5	8.2
17	7.9	7.8	8.5	8.3	8.5	8.4	8.1	7.8	8.5	7.9	8.3	8.1
18	8.0	7.9	8.6	8.1	8.3	8.1	8.3	7.6	8.0	7.7	8.4	8.0
19	8.1	8.0	8.5	8.1	8.4	8.2	8.2	7.9	8.0	7.8	8.3	8.0
20	8.2	8.1	8.2	8.0	8.3	8.1	8.4	7.9	8.1	7.9	8.8	8.2
21	8.2	8.1	8.0	7.9	8.3	8.1	8.2	7.9	8.1	7.9	8.7	8.5
22	8.3	8.2	8.0	7.9	8.2	8.1	8.3	7.8	8.0	7.9	8.7	8.5
23	8.4	8.2	8.0	7.9	8.2	8.0	8.3	7.7	8.0	7.9	8.6	8.3
24	8.4	8.2	8.0	7.9	8.3	8.1	8.6	8.2	7.9	7.9	8.5	8.1
25	8.6	8.2	8.3	7.9	8.4	8.2	8.7	8.3	7.9	7.9	8.4	7.9
26	8.6	8.3	8.2	8.0	8.7	8.2	8.6	8.2	7.9	7.9	8.2	8.0
27	8.6	8.5	8.1	7.9	8.8	8.3	8.8	8.2	8.0	7.9	8.4	7.9
28	8.6	8.5	8.0	7.9	8.8	8.5	8.8	8.3	7.9	7.8	8.4	8.0
29	8.8	8.5	8.0	7.9	8.7	8.3	8.6	7.9	8.0	7.7	8.3	8.2
30	8.8	8.6	8.0	7.9	8.7	8.1	8.8	8.3	8.1	7.9	8.7	8.3
31	---	---	8.1	7.9	---	---	8.9	8.0	8.0	7.8	---	---
MONTH	8.8	7.7	8.8	7.9	8.8	7.9	8.9	7.6	8.9	7.7	8.9	7.8
YEAR	9.0	7.6										

04198005 SANDUSKY RIVER BELOW FREMONT, OH

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.5	19.5	11.5	10.5	3.5	3.0	2.5	2.5	.5	.5	.5	.5
2	21.5	20.0	11.5	10.5	3.0	2.0	2.5	2.0	.5	.5	.5	.5
3	20.0	19.0	10.5	9.0	1.5	1.0	2.0	2.0	.5	.5	.5	.5
4	19.0	18.0	10.0	9.0	1.5	1.0	2.0	1.5	.5	.5	.5	.5
5	18.0	16.5	9.5	8.5	3.0	1.0	1.0	1.0	.5	.5	.5	.5
6	16.5	14.5	9.0	8.5	3.0	2.5	.5	.5	.5	.5	.5	.5
7	14.5	13.5	8.5	7.5	9.5	2.0	.5	.5	.5	.5	.5	.5
8	13.5	12.5	7.5	6.5	12.0	2.5	---	---	.5	.5	.5	.5
9	13.0	12.0	6.5	6.5	2.5	1.5	1.0	.5	.5	.5	.5	.5
10	12.0	11.5	7.0	6.5	2.5	1.5	1.0	.5	.5	.5	1.5	.5
11	11.5	10.0	6.5	6.0	4.5	2.0	1.0	.5	.5	.5	2.0	1.5
12	10.5	10.0	6.0	5.5	5.0	4.5	.5	.0	.5	.5	1.5	1.0
13	10.0	9.0	5.5	5.0	5.0	4.0	.5	.5	.5	.5	1.5	1.0
14	10.0	8.5	5.5	4.5	4.0	3.0	1.0	.5	.5	.5	2.0	1.0
15	10.0	9.0	5.5	4.5	3.5	2.0	1.0	.5	.5	.5	3.5	1.5
16	11.0	9.5	5.5	4.5	3.0	1.5	2.0	1.0	.5	.5	4.5	3.0
17	12.0	10.5	5.5	4.5	1.5	.5	3.5	2.0	.5	.5	5.5	4.5
18	13.0	11.0	7.5	5.0	1.0	.5	4.0	3.5	.5	.5	5.5	4.5
19	14.0	12.5	7.5	6.0	1.0	.5	3.5	3.5	.5	.5	5.0	4.5
20	15.5	13.5	8.5	7.0	1.0	1.0	3.5	3.0	.5	.5	6.0	5.0
21	17.5	15.0	9.0	8.0	1.0	.5	3.0	2.5	.5	.5	6.0	5.0
22	19.0	17.0	10.0	9.0	1.5	1.0	2.5	2.0	.5	.5	5.0	4.0
23	18.0	14.5	10.5	10.0	4.5	1.5	2.0	1.0	.5	.5	4.5	4.0
24	14.5	12.0	10.0	9.0	6.5	4.0	1.0	.5	.5	.5	5.0	4.5
25	12.0	10.5	9.0	8.0	7.5	6.5	.5	.5	.5	.5	5.0	5.0
26	10.5	9.0	8.5	8.0	6.5	5.5	1.0	.5	.5	.5	5.0	4.5
27	9.5	8.5	8.0	7.5	5.5	4.5	1.0	.5	.5	.5	5.5	4.0
28	9.5	9.0	8.0	7.0	4.5	3.5	1.0	.5	.5	.5	5.5	5.0
29	10.0	8.5	6.5	6.0	3.5	3.0	1.0	.5	.5	.5	6.0	5.5
30	10.0	9.0	5.0	3.5	3.0	3.0	1.0	.5	---	---	6.0	5.5
31	11.0	9.5	---	---	3.0	2.5	---	---	---	---	6.5	6.0
MONTH	21.5	8.5	11.5	3.5	12.0	.5	4.0	.0	.5	.5	6.5	.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.5	6.0	15.0	12.5	23.5	22.0	25.0	24.0	26.5	25.5	26.5	25.0
2	7.5	6.5	15.0	14.5	23.0	22.0	25.5	23.5	27.5	26.0	26.0	25.0
3	7.5	7.0	16.5	15.0	22.5	20.5	26.5	24.5	26.5	25.5	25.5	24.5
4	7.5	7.0	19.5	16.5	20.5	19.5	26.5	25.0	26.0	25.0	25.5	25.0
5	7.5	6.5	20.0	18.0	21.0	19.5	26.0	24.5	27.5	25.0	26.0	24.0
6	8.5	7.0	20.5	18.5	22.0	20.0	---	---	28.0	25.5	25.0	24.5
7	8.5	8.0	19.5	17.5	21.5	21.0	---	---	28.0	26.0	25.0	24.0
8	10.5	8.5	17.5	16.0	---	---	25.5	22.5	29.0	27.0	24.0	23.0
9	10.5	9.5	16.5	15.0	---	---	25.5	23.5	29.0	27.5	24.0	23.0
10	9.0	8.0	16.0	14.5	19.5	17.5	26.0	23.0	28.5	28.0	23.5	22.0
11	9.5	7.5	16.5	15.0	20.0	17.5	26.5	24.0	27.5	26.5	22.5	21.5
12	10.0	9.0	17.0	16.0	21.0	18.5	26.5	24.0	26.5	25.5	22.0	21.5
13	9.5	8.0	19.0	16.5	22.0	19.0	26.0	23.5	26.0	25.0	23.0	21.5
14	8.5	6.5	19.0	17.5	22.0	20.5	26.0	23.5	26.0	24.5	23.5	22.0
15	6.5	6.0	19.0	17.5	21.5	20.5	28.0	25.0	26.0	25.5	22.5	22.0
16	7.0	5.5	19.0	17.0	20.5	19.5	28.0	27.5	25.5	25.0	21.5	21.5
17	7.5	6.0	18.0	17.5	21.0	18.0	28.5	27.0	25.0	23.0	21.5	20.5
18	10.0	7.5	18.5	16.5	21.5	18.0	29.0	27.5	23.0	21.5	20.5	19.5
19	12.5	9.0	18.5	17.0	21.0	20.0	29.0	27.5	23.5	22.0	20.0	19.5
20	14.0	11.5	18.5	16.5	21.0	19.0	29.5	27.0	24.5	23.0	21.0	20.0
21	15.0	13.0	19.5	17.0	21.5	20.0	29.0	27.5	24.5	23.5	22.0	20.5
22	16.0	14.0	21.0	18.5	23.0	21.0	28.0	27.0	24.0	22.5	24.0	21.5
23	17.0	15.5	21.0	19.5	23.5	22.0	27.0	26.0	24.0	22.5	23.0	21.5
24	16.5	15.0	21.0	19.5	24.0	22.0	27.0	25.0	24.0	22.0	22.0	21.0
25	15.5	14.0	21.5	20.5	24.5	23.5	26.5	25.0	24.0	22.0	21.5	20.5
26	15.0	14.0	21.0	18.0	26.0	24.5	26.5	25.0	24.5	23.5	20.5	19.5
27	14.5	13.0	20.0	18.0	28.0	25.5	26.5	25.5	25.0	24.0	19.5	18.0
28	14.0	12.5	21.0	18.5	28.0	26.5	26.5	25.5	25.5	24.5	19.0	17.5
29	13.5	12.5	22.0	20.5	27.5	26.0	26.0	25.0	26.0	24.5	18.5	17.5
30	14.0	13.0	23.5	21.0	26.0	25.0	26.5	25.0	26.5	25.5	19.0	18.0
31	---	---	23.5	22.5	---	---	27.5	25.5	26.5	25.0	---	---
MONTH	17.0	5.5	23.5	12.5	28.0	17.5	29.5	22.5	29.0	21.5	26.5	17.5
YEAR	29.5	.0										

STREAMS TRIBUTARY TO LAKE ERIE

04198005 SANDUSKY RIVER BELOW FREMONT, OH

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.8	10.0	11.7	10.1	12.5	12.3	12.4	12.2	14.9	14.0	14.2	13.8
2	14.0	8.6	11.3	9.7	13.0	12.4	12.5	12.2	15.5	14.7	14.6	13.8
3	8.8	5.0	10.9	9.2	13.3	12.8	12.6	12.4	15.9	14.5	15.6	13.7
4	10.8	6.6	12.7	10.8	13.3	12.9	13.7	11.9	16.2	14.4	15.9	13.2
5	10.3	7.4	13.0	11.5	13.2	12.6	11.9	11.4	16.3	14.3	15.2	12.7
6	11.8	8.5	12.6	11.3	12.8	12.0	11.9	11.4	16.3	14.2	14.1	12.6
7	11.3	8.2	11.5	10.6	12.2	10.4	12.0	10.8	16.3	14.4	13.1	12.6
8	10.0	8.6	11.1	10.5	12.4	9.9	---	---	16.1	13.8	13.2	12.3
9	10.0	9.0	11.3	10.8	12.8	12.4	11.6	10.8	15.8	15.0	13.8	13.2
10	9.6	9.1	12.2	10.2	12.8	12.6	12.2	10.8	17.0	15.0	13.8	13.0
11	9.5	9.2	12.2	10.7	12.7	12.1	12.3	10.5	16.2	14.6	13.8	13.0
12	9.6	8.9	12.6	11.8	12.4	11.1	12.4	11.2	15.5	14.3	14.2	13.4
13	9.5	9.1	12.9	12.0	11.6	11.0	12.4	12.0	16.0	14.5	13.4	12.7
14	10.4	9.3	13.1	12.2	12.0	11.6	12.4	11.5	16.9	14.1	13.0	12.8
15	10.4	9.9	12.0	12.1	12.7	12.0	11.8	11.4	16.3	13.6	13.4	12.7
16	10.4	9.9	12.2	11.1	13.0	12.3	11.7	11.1	15.1	13.2	13.0	12.5
17	10.4	9.4	13.1	11.6	13.1	12.3	11.1	10.6	14.4	13.2	12.4	11.0
18	10.9	9.4	12.3	11.8	14.2	13.0	10.7	10.5	15.2	13.9	12.8	11.2
19	10.6	9.6	12.6	11.2	14.2	13.4	10.8	10.4	15.5	13.8	12.7	11.8
20	10.2	9.0	12.0	10.9	14.1	12.9	10.9	10.4	15.2	13.7	11.9	11.4
21	10.5	8.8	11.6	10.7	14.1	13.2	11.2	10.5	14.8	14.2	11.7	10.9
22	11.4	8.6	11.1	10.0	14.0	11.9	11.1	10.5	15.7	12.2	12.6	11.4
23	9.0	8.4	10.2	9.3	13.0	12.3	10.8	10.2	13.4	12.2	12.4	12.2
24	9.9	8.3	11.1	10.2	12.3	11.8	11.0	10.6	13.6	13.4	12.4	11.0
25	10.8	9.2	11.6	11.1	12.0	11.7	11.3	10.6	13.6	13.0	12.9	11.2
26	11.5	10.6	11.8	11.3	12.4	12.0	11.5	10.7	13.2	12.9	12.9	11.6
27	13.5	11.2	11.9	11.6	12.7	12.3	12.2	11.0	14.0	13.4	12.1	11.7
28	13.0	12.0	12.0	11.5	12.8	12.6	12.3	11.2	13.6	13.4	12.0	10.9
29	13.5	11.7	12.2	11.9	12.7	12.5	12.7	11.2	14.0	13.4	11.1	10.8
30	13.9	11.9	12.4	12.2	12.6	12.4	11.6	11.2	---	---	11.4	10.8
31	13.7	11.8	---	---	12.5	12.3	---	---	---	---	10.9	10.4
MONTH	15.8	5.0	13.1	9.2	14.2	9.9	13.7	10.2	17.0	12.2	15.9	10.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.3	14.7	12.5	7.0	5.5	12.3	7.4	6.0	3.2	6.2	3.8
2	12.2	10.8	---	---	7.3	6.3	12.2	6.8	7.5	5.1	6.8	3.9
3	11.8	11.2	13.2	10.0	9.0	7.2	12.8	8.6	5.1	3.0	6.6	5.5
4	11.2	10.6	11.0	9.6	10.0	9.7	14.4	9.6	5.6	2.6	12.7	5.2
5	12.2	11.0	10.1	7.8	10.2	9.8	10.8	5.6	10.8	4.1	12.8	5.0
6	12.4	11.8	8.3	6.3	9.9	9.2	---	---	12.8	5.4	11.4	6.4
7	11.9	11.6	9.5	5.8	9.2	8.1	---	---	11.8	6.6	14.9	6.0
8	11.7	10.7	10.1	7.6	---	---	7.3	6.8	12.8	7.6	12.3	7.1
9	10.9	10.4	11.0	8.4	---	---	6.6	5.9	12.0	6.4	15.7	6.9
10	11.1	10.7	11.0	9.8	9.8	9.6	6.7	5.8	9.4	7.3	12.2	6.6
11	12.8	11.2	12.4	10.0	9.7	9.2	6.8	6.4	8.4	3.9	10.9	6.7
12	11.8	11.3	12.2	10.4	9.5	8.4	6.9	6.1	9.0	3.1	11.3	6.3
13	11.8	11.4	10.7	9.5	8.8	8.0	7.1	6.2	10.2	5.4	11.0	6.0
14	12.7	11.3	10.1	8.1	8.3	7.2	7.2	6.7	8.8	4.6	13.3	5.9
15	13.2	12.8	12.4	8.3	7.9	6.6	7.1	6.3	10.0	6.3	9.7	6.9
16	13.4	13.2	14.0	9.4	9.8	6.1	6.6	5.8	9.5	6.6	6.9	5.2
17	13.4	12.8	11.2	9.1	10.0	9.4	6.3	5.0	9.4	5.8	6.0	4.6
18	12.8	11.3	11.2	7.6	9.9	9.0	7.5	4.6	7.3	5.4	7.3	3.8
19	11.3	10.0	10.6	8.3	9.2	8.6	6.9	5.0	6.9	5.9	6.7	4.2
20	10.9	9.3	8.9	8.2	7.9	7.6	7.7	4.8	7.6	6.1	11.4	5.2
21	10.5	9.8	8.5	8.0	7.8	6.5	6.3	4.5	7.2	6.3	10.0	7.8
22	10.4	9.0	8.0	6.5	7.2	6.4	7.0	3.8	7.4	6.4	10.1	7.1
23	9.6	8.3	7.6	5.5	6.6	5.4	7.4	3.2	7.6	7.1	7.9	5.8
24	10.1	8.3	6.9	5.6	6.2	4.8	9.4	6.3	7.3	6.9	7.4	4.2
25	12.0	9.5	8.5	5.9	6.0	4.3	9.5	6.2	7.2	6.8	7.1	3.4
26	12.4	9.7	9.1	8.1	7.8	4.6	8.2	6.2	7.0	5.8	6.2	4.4
27	12.3	11.0	8.9	8.1	10.9	6.1	9.5	5.8	6.4	5.7	7.9	4.8
28	11.8	10.3	8.6	7.8	12.8	6.9	9.4	5.6	6.0	5.3	8.5	5.6
29	12.5	10.0	7.7	6.8	10.4	5.0	7.7	5.0	6.2	4.8	8.1	6.6
30	13.2	10.5	7.2	6.1	8.6	3.8	9.2	4.8	6.8	5.8	11.1	6.9
31	---	---	7.2	5.6	---	---	9.8	4.9	5.8	4.3	---	---
MONTH	13.4	8.3	14.7	5.5	12.8	3.8	14.4	3.2	12.8	2.6	15.7	3.4
YEAR	17.0	2.6										

04198005 SANDUSKY RIVER BELOW FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
NOV										
25...	0800	6060	570	7.6	47	38	23	4.7	338	.46
25...	1000	5960	547	7.5	65	41	26	4.8	320	.44
25...	1200	5800	548	7.6	55	42	25	5.1	327	.44
25...	1400	5660	550	7.5	45	43	23	5.4	319	.43
25...	1600	5580	563	7.1	38	42	19	5.6	375	.51
25...	1800	5520	544	7.9	34	37	18	5.6	334	.45
25...	2000	5520	541	8.0	42	36	17	5.7	338	.46
25...	2200	5580	542	7.9	44	34	16	5.8	330	.45
29...	1130	5630	477	7.6	43	35	16	5.8	277	.38
DEC										
28...	1130	5880	445	8.1	49	59	21	6.8	246	.33
28...	1330	5690	447	8.1	59	53	22	7.1	244	.33
28...	1915	4940	455	8.1	51	60	22	7.2	275	.37
29...	0115	4240	465	8.2	51	61	23	7.5	294	.40
29...	0715	3580	488	8.3	39	62	24	7.1	333	.45
29...	1315	2980	501	8.2	46	65	25	7.4	332	.45
29...	1515	2850	519	8.1	42	66	27	7.2	383	.52
29...	2215	2390	527	8.2	39	69	26	7.3	360	.49
30...	0415	2100	540	8.2	42	71	28	7.4	396	.54
30...	1015	1900	553	8.3	58	63	28	7.4	359	.49
JAN										
10...	1230	1830	830	8.1	23	136	35	8.0	609	.83
JUL										
17...	1430	587	460	7.7	--	--	--	6.2	261	.35
17...	1530	569	462	8.0	--	--	--	6.4	243	.33
17...	1600	569	463	8.1	--	--	--	6.1	248	.34
18...	1030	434	461	8.1	--	--	--	6.3	266	.36
18...	1130	426	462	7.9	--	--	--	6.7	274	.37
18...	1230	411	458	8.1	--	--	--	6.4	302	.41
20...	1400	339	493	8.0	--	--	--	6.6	324	.44
20...	1500	332	496	7.7	--	--	--	6.6	293	.40
20...	1600	326	498	7.6	--	--	--	6.5	300	.41
20...	1700	326	495	7.6	--	--	--	6.7	301	.41
30...	1130	158	599	7.6	--	--	--	5.9	354	.48

04198005 SANDUSKY RIVER BELOW FREMONT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV										
25...	5530	236	.07	.02	2.3	2.3	2.4	11	.553	9.4
25...	5150	194	.12	.04	1.8	1.8	2.0	8.7	.518	9.2
25...	5120	184	.17	.00	2.3	2.3	2.5	11	.510	9.9
25...	4880	177	.21	.02	1.7	1.6	1.9	8.4	.503	9.6
25...	5650	192	.27	.00	2.0	1.9	2.3	10	.489	9.1
25...	4980	161	.27	.01	2.1	2.0	2.3	10	.497	9.2
25...	5040	159	.28	.00	1.8	1.8	2.1	9.2	.472	9.0
25...	4970	159	.31	.00	2.5	2.5	2.8	13	.484	9.7
29...	4210	114	.44	.00	1.8	1.8	2.3	10	.427	9.5
DEC										
28...	3910	183	6.7	.00	1.7	1.7	8.5	38	.423	9.6
28...	3750	115	6.8	.01	1.6	1.6	8.5	38	.374	9.7
28...	3670	114	6.6	.01	1.6	1.6	8.3	37	.356	9.4
29...	3370	102	6.7	.10	1.4	1.5	8.3	37	.345	9.4
29...	3220	97	6.5	.00	1.6	1.6	8.2	36	.313	9.3
29...	2670	86	6.6	.00	1.4	1.4	8.1	36	.283	9.2
29...	2950	81	6.3	.01	1.3	1.3	7.7	34	.285	9.4
29...	2320	75	6.7	.00	1.2	1.2	7.9	35	.276	8.8
30...	2250	68	6.6	.00	1.3	1.2	7.9	35	.264	8.7
30...	1840	70	6.5	.00	1.4	1.4	7.9	35	.246	8.5
JAN										
10...	3010	5	4.6	.11	.53	.64	5.3	24	.126	6.5
JUL										
17...	414	190	4.6	.17	1.1	1.2	5.8	26	.335	--
17...	373	156	4.5	.13	1.3	1.3	6.0	26	.329	--
17...	381	150	4.7	.04	1.4	1.4	6.2	27	.365	--
18...	312	161	5.0	.02	.63	.66	5.7	25	.367	--
18...	315	123	5.1	.04	.72	.77	5.9	26	.313	--
1C...	335	117	5.2	.11	.78	.89	6.1	27	.317	--
20...	297	105	5.0	.07	1.1	1.1	6.2	28	.323	--
20...	263	91	5.1	.02	1.3	1.3	6.4	29	.311	--
20...	264	81	5.1	.05	1.2	1.2	6.4	28	.332	--
20...	265	114	5.0	.16	1.0	1.2	6.2	28	.291	--
30...	151	64	2.2	.04	1.7	1.7	4.0	18	.281	--

04199000 HURON RIVER AT MILAN, OH

LOCATION.--Lat 41°18'04", long 82°36'36", in SW 1/4 sec. 4, T.5 N., R.22 W., Erie County, Hydrologic Unit 04100012, on right bank on upstream side of bridge on U.S. Highway 250, 0.2 mi (0.3 km) northwest of Milan and 2.0 mi (3.2 km) downstream from confluence of East and West Branches.

DRAINAGE AREA.--371 mi² (961 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 573.26 ft (174.730 m) National Geodetic Vertical Datum of 1929. July 29, 1953 to Oct. 5, 1979, water-stage recorder at site of former highway bridge 500 ft (152 m) downstream at same datum. July 29, 1953, nonrecording gage at site of former highway 450 ft (137 m) downstream at same datum.

REMARKS.--Records good except those for winter period and Apr. 13 to July 4 which are fair. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--30 years, 302 ft³/s (8.553 m³/s), 11.06 in/yr (281 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft³/s (1,400 m³/s) July 5, 1969, gage height, 31.1 ft (9.48 m) (from floodmark), from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 2.2 ft³/s (0.062 m³/s) Sept. 10, 15, 19, 20, 21, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,700 ft³/s (133 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 23	1715	*4730	134	*15.15	4.618	Mar. 21	1300	4710	133	15.13	4.612

Minimum daily discharge, 24 ft³/s (0.68 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	35	303	257	270	300	1110	117	129	50	70	44
2	96	41	267	231	240	290	646	115	328	37	61	36
3	52	40	233	200	210	280	503	100	624	31	59	35
4	160	45	235	191	190	270	2560	93	404	54	80	36
5	239	43	233	170	180	350	1360	87	215	284	99	32
6	253	40	232	160	165	800	670	80	167	463	75	31
7	193	39	228	150	160	1100	478	75	290	165	54	29
8	153	37	225	140	155	3180	431	69	1010	88	46	35
9	119	44	230	140	155	2650	968	68	476	223	41	30
10	93	78	250	250	155	1170	1130	65	241	265	40	27
11	80	219	280	787	150	986	740	73	163	116	59	35
12	78	136	228	1690	150	515	537	84	113	68	125	34
13	68	91	216	601	150	397	517	172	87	61	118	31
14	61	76	212	422	150	324	1580	203	69	48	66	30
15	56	65	274	280	150	260	2060	144	119	36	51	28
16	52	65	417	209	150	252	924	96	263	121	43	26
17	48	65	506	342	150	607	575	113	175	152	73	50
18	49	64	365	321	150	1240	434	609	115	68	744	40
19	48	62	288	262	150	831	362	775	80	36	297	44
20	43	60	234	221	190	558	290	447	71	27	191	37
21	41	58	784	202	695	2980	249	284	65	24	290	34
22	41	56	1090	199	2480	2420	219	203	48	171	723	36
23	40	135	3460	177	1110	780	209	149	41	471	310	33
24	38	380	3960	586	549	500	187	123	36	242	172	31
25	35	600	2840	756	430	600	170	115	34	161	104	28
26	36	1500	1060	640	380	750	149	106	31	98	71	33
27	36	800	638	548	340	516	160	76	29	378	57	30
28	35	600	474	484	310	437	147	63	28	393	53	28
29	34	440	388	405	350	817	134	56	98	214	49	29
30	34	342	324	350	---	975	123	54	123	119	54	27
31	33	---	286	300	---	1890	---	84	---	78	48	---
TOTAL	2452	6256	20760	11751	10064	29025	19622	4898	5672	4742	4323	999
MEAN	79.1	209	670	379	347	936	654	158	189	153	139	33.3
MAX	253	1500	3960	1690	2480	3180	2560	775	1010	471	744	50
MIN	33	35	212	140	150	252	123	54	28	24	40	26
CFSM	.21	.56	1.81	1.02	.94	2.52	1.76	.43	.51	.41	.38	.09
IN.	.25	.63	2.08	1.18	1.01	2.91	1.97	.49	.57	.48	.43	.10

CAL YR 1979 TOTAL 145567 MEAN 399 MAX 8100 MIN 27 CFSM 1.08 IN 14.60
WTR YR 1980 TOTAL 120564 MEAN 329 MAX 3960 MIN 24 CFSM .89 IN 12.09

04199000 HURON RIVER AT MILAN, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1978 to September 1980 (discontinued).
pH: October 1978 to September 1980 (discontinued).
WATER TEMPERATURES: October 1978 to September 1980 (discontinued).
DISSOLVED OXYGEN: October 1978 to September 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Prior to October 1978, records published as 04199100, Huron River below Milan, Ohio.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,410 micromhos Jan. 14, 1979; minimum, 186 micromhos Mar. 3, 1979.
pH: Maximum, 9.1 units June 21, 1980; minimum, 6.9 units Apr. 14, 1979.
WATER Temperatures: Maximum, 31.5°C July 16, 31, 1979, July 20, 1980; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.3 mg/L Oct. 18, 1979; minimum 3.5 mg/L Sept. 23, 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,120 micromhos Oct. 27; minimum, 210, micromhos Mar. 9.
pH: Maximum, 9.1 units June 21; minimum, 7.1 units May 31.
WATER TEMPERATURES: Maximum, 31.5°C July 20; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.3 mg/L Oct. 18; minimum, 3.5 mg/L Sept. 23.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	807	420	---	---	687	559	666	645	891	867	747	696
2	795	564	---	---	682	610	681	660	951	891	744	717
3	852	790	---	---	701	700	717	672	975	906	759	741
4	850	600	---	---	751	703	711	693	969	924	780	741
5	753	663	---	---	759	708	735	702	972	942	819	645
6	762	669	---	---	762	744	810	738	963	918	642	429
7	675	654	---	---	753	726	792	730	939	912	426	396
8	690	675	---	---	723	681	831	777	942	924	366	213
9	711	690	---	---	681	666	825	786	975	921	318	210
10	735	720	---	---	702	681	840	816	996	945	384	324
11	756	730	---	---	720	696	837	414	1010	912	417	384
12	771	753	---	---	723	702	432	333	933	903	489	417
13	801	768	---	---	738	714	483	402	927	903	531	492
14	810	789	---	---	756	720	555	492	906	879	564	534
15	813	789	---	---	768	747	600	558	927	882	591	570
16	813	783	---	---	765	750	636	603	1010	882	603	591
17	813	789	735	642	819	759	639	633	993	909	609	510
18	819	780	729	441	864	810	648	633	942	918	507	450
19	813	738	783	501	825	804	645	633	930	885	495	453
20	804	708	830	397	843	810	648	627	960	900	522	498
21	816	708	830	365	837	804	669	648	924	831	534	282
22	879	768	864	460	804	561	687	666	825	324	387	285
23	966	837	763	604	561	498	738	693	345	294	465	387
24	1010	939	698	413	507	354	780	747	435	348	510	468
25	1090	945	411	354	387	333	780	750	507	441	480	411
26	1090	945	406	247	402	333	840	786	576	510	492	420
27	1120	942	437	284	492	402	822	804	621	585	540	492
28	1050	897	523	436	552	495	837	810	651	600	576	546
29	1030	876	591	520	591	552	846	828	702	645	576	501
30	1020	921	619	607	618	594	873	849	---	---	498	462
31	---	---	---	---	645	610	870	855	---	---	480	363
MONTH	1120	420	864	247	864	333	873	333	1010	294	819	210

04199000 HURON RIVER AT MILAN, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	444	366	690	633	723	657	561	534	---	---	717	684
2	507	441	696	642	678	549	549	525	---	---	777	675
3	543	510	681	627	582	546	576	546	---	---	818	711
4	495	276	681	624	618	585	597	552	---	---	825	681
5	411	306	669	627	657	636	573	462	---	---	753	714
6	483	417	681	627	690	627	726	342	---	---	780	750
7	531	486	702	654	675	435	447	384	660	504	807	762
8	555	504	---	---	564	447	501	456	690	618	843	804
9	510	414	---	---	558	504	537	507	702	669	861	789
10	414	387	---	---	609	564	---	---	717	642	846	810
11	468	414	---	---	642	615	---	---	756	615	873	834
12	528	471	---	---	663	645	---	---	669	615	873	822
13	558	528	699	654	681	660	---	---	723	642	867	807
14	561	327	708	657	705	669	---	---	663	597	870	771
15	387	303	681	618	708	459	---	---	657	597	861	789
16	465	393	654	624	621	519	---	---	678	609	900	855
17	504	468	711	591	669	627	---	---	732	342	960	810
18	528	504	672	597	711	639	---	---	414	354	885	822
19	555	528	594	555	696	633	---	---	585	420	906	867
20	582	561	597	570	690	630	---	---	639	579	906	849
21	612	585	621	600	711	630	---	---	639	354	894	828
22	630	576	636	609	702	636	---	---	453	336	897	792
23	630	594	645	624	681	639	---	---	555	459	909	687
24	648	606	654	630	702	648	---	---	594	561	870	807
25	648	615	666	621	699	666	---	---	609	573	897	870
26	660	606	699	636	684	657	---	---	639	603	921	882
27	663	624	717	660	702	648	---	---	663	636	930	882
28	669	633	696	645	711	654	---	---	675	648	930	852
29	696	633	687	645	705	666	---	---	699	672	888	840
30	693	642	717	630	858	573	---	---	801	690	894	840
31	---	---	654	579	---	---	---	---	717	663	---	---
MONTH	696	276	717	555	858	435	726	342	801	336	960	675
YEAR	1120	210										

04199000 HURON RIVER AT MILAN, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.5	7.6	8.2	7.9	8.2	8.0	8.0	7.9	8.2	8.0	8.4	8.2
2	8.0	7.8	8.5	7.9	8.3	8.2	8.0	7.9	8.1	7.9	8.3	8.1
3	8.1	7.9	8.5	8.2	8.3	8.2	8.1	8.0	8.2	7.8	8.3	8.2
4	8.0	7.7	8.5	8.3	8.4	8.0	8.1	8.0	8.0	7.9	8.4	8.2
5	8.2	7.9	8.6	8.3	8.6	8.1	8.1	8.0	8.1	7.9	8.2	8.1
6	8.2	8.1	8.6	8.3	8.1	8.0	8.1	7.9	8.2	7.9	8.2	8.0
7	8.3	8.0	8.5	8.2	8.2	8.1	8.2	8.0	8.1	7.9	8.1	8.0
8	8.3	8.1	8.5	8.2	8.7	8.1	7.9	7.8	8.1	8.0	8.0	7.8
9	8.3	8.0	8.4	8.1	8.6	8.3	8.0	7.9	8.1	7.9	7.9	7.8
10	8.4	8.1	8.5	8.1	8.6	8.5	8.0	7.9	8.0	7.9	8.0	7.9
11	8.4	8.1	8.6	8.4	8.6	8.4	8.0	7.6	8.1	7.8	8.0	7.9
12	8.4	8.1	8.5	8.4	8.4	8.1	7.7	7.6	8.1	8.0	8.1	8.0
13	8.4	8.2	8.5	8.3	8.5	8.1	7.8	7.6	8.2	8.0	8.1	8.1
14	8.5	8.2	8.6	8.2	8.3	8.1	7.8	7.8	8.1	8.0	8.2	8.1
15	8.6	8.3	8.7	8.2	8.3	8.1	7.9	7.8	8.1	7.9	8.4	8.2
16	8.6	8.3	---	---	8.2	8.1	8.0	7.9	8.1	8.0	8.2	8.2
17	8.7	8.3	---	---	8.2	8.0	8.1	8.0	8.2	7.9	8.2	8.1
18	8.7	8.2	---	---	8.2	8.0	8.1	8.0	8.2	8.0	8.1	8.1
19	8.6	8.1	---	---	8.1	8.0	8.1	8.0	8.2	8.0	8.3	8.1
20	8.5	7.9	---	---	8.1	7.9	8.2	8.0	8.2	8.1	8.3	8.1
21	8.3	7.7	---	---	8.2	7.9	8.2	8.0	8.4	8.0	8.1	7.9
22	8.1	7.6	8.6	8.2	8.1	7.7	8.1	8.0	8.2	7.8	8.1	7.9
23	8.0	7.6	8.4	8.0	7.9	7.8	8.2	8.0	7.9	7.8	8.0	7.7
24	8.2	7.8	8.1	7.9	7.8	7.5	8.1	8.0	8.1	7.9	7.9	7.8
25	8.2	7.8	8.1	7.8	7.5	7.5	8.1	8.0	8.2	8.0	7.8	7.8
26	8.2	7.8	7.8	7.5	7.6	7.5	8.2	8.0	8.2	8.0	7.8	7.8
27	8.3	7.9	7.9	7.7	7.7	7.6	8.2	8.0	8.2	8.2	7.9	7.8
28	8.4	7.8	8.2	7.9	7.8	7.7	8.2	8.0	8.4	8.0	7.9	7.9
29	8.5	7.9	8.2	7.8	7.9	7.8	8.2	8.0	8.3	8.2	7.9	7.8
30	8.5	7.9	8.2	8.1	7.9	7.8	8.2	8.0	---	---	7.9	7.8
31	---	---	---	---	7.9	7.9	8.1	8.0	---	---	7.7	7.6
MONTH	8.7	7.6	8.7	7.5	8.7	7.5	8.2	7.6	8.4	7.8	8.4	7.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.7	8.8	8.3	7.8	7.4	8.3	7.9	8.6	8.2	8.4	7.9
2	7.9	7.8	8.8	8.2	7.6	7.3	8.3	7.8	8.4	8.1	8.4	7.8
3	8.0	7.8	8.7	8.0	7.5	7.3	8.4	7.9	8.2	8.1	8.5	8.0
4	7.8	7.5	8.7	7.9	---	---	8.4	7.6	8.5	8.2	8.4	7.9
5	7.7	7.6	8.7	7.8	---	---	8.2	7.7	8.5	8.4	8.2	7.6
6	7.9	7.7	8.6	7.8	---	---	8.1	7.8	8.7	8.5	8.3	7.8
7	7.9	7.8	---	---	---	---	8.1	7.9	8.7	8.4	8.2	7.8
8	7.9	7.7	---	---	---	---	8.1	7.9	8.6	8.3	8.3	7.8
9	7.9	7.6	---	---	---	---	8.2	7.9	8.7	8.2	8.2	7.8
10	7.8	7.6	---	---	---	---	8.2	7.9	8.6	8.2	8.3	7.7
11	8.0	7.8	---	---	---	---	8.1	7.7	8.6	8.1	8.4	7.8
12	8.1	7.8	---	---	---	---	8.1	7.9	8.9	8.2	8.3	7.8
13	8.4	8.1	---	---	---	---	8.2	7.9	9.0	8.4	8.3	7.8
14	8.3	7.7	---	---	---	---	8.3	8.1	9.0	8.3	8.1	7.7
15	8.0	7.7	---	---	---	---	8.4	8.1	8.9	8.2	8.1	7.9
16	8.2	8.0	---	---	---	---	8.5	8.0	8.9	8.2	8.3	7.9
17	8.3	8.2	---	---	---	---	8.8	8.0	8.7	8.1	8.1	7.8
18	8.4	7.9	---	---	---	---	8.8	7.9	9.0	8.1	8.4	8.0
19	7.9	7.8	---	---	---	---	8.8	7.8	8.5	8.1	8.4	7.9
20	8.4	7.9	7.7	7.5	9.0	8.6	8.7	7.8	8.5	8.3	8.4	7.9
21	8.6	8.1	7.9	7.4	9.1	8.3	8.7	7.9	8.3	7.7	8.2	7.8
22	8.8	8.2	8.0	7.4	9.0	8.3	8.5	8.0	8.0	7.7	8.1	7.7
23	8.8	8.0	8.0	7.4	8.9	8.1	8.5	8.2	8.3	7.8	8.3	7.5
24	9.0	8.3	8.0	7.4	8.7	8.0	8.7	8.1	8.4	7.9	8.5	7.9
25	9.0	8.3	8.1	7.4	8.5	7.9	8.6	8.3	8.6	8.0	8.4	7.9
26	9.0	8.3	8.1	7.5	8.4	7.8	8.8	8.2	8.6	8.0	8.3	7.9
27	8.9	8.3	8.1	7.5	8.4	7.7	8.7	8.1	8.5	8.0	8.5	8.0
28	8.9	8.3	8.2	7.4	8.4	7.7	8.5	7.8	8.7	7.9	8.5	7.9
29	8.9	8.4	8.1	7.2	8.4	7.7	8.4	7.9	8.6	7.9	8.5	7.9
30	8.7	8.3	7.9	7.2	8.4	7.9	8.3	8.0	8.5	7.9	8.4	7.9
31	---	---	7.8	7.1	---	---	8.5	8.3	8.4	7.9	---	---
MONTH	9.0	7.5	8.8	7.1	9.1	7.3	8.8	7.6	9.0	7.7	8.5	7.5
YEAR	9.1	7.1										

04199000 HURON RIVER AT MILAN, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	2.0	1.0	2.5	2.0	.5	.5	.0	.0
2	---	---	---	---	2.0	.5	2.0	1.5	.5	.5	.0	.0
3	---	---	---	---	.5	.5	1.5	1.0	.5	.5	.0	.0
4	---	---	---	---	1.0	.5	2.0	.5	.5	.5	.0	.0
5	15.5	14.0	---	---	3.5	.5	1.0	.5	.5	.0	.5	.0
6	14.5	13.5	---	---	3.0	2.5	.5	.5	.5	.5	.5	.0
7	14.0	13.0	---	---	3.5	2.0	1.0	.5	.5	.5	1.0	.0
8	13.5	12.5	---	---	3.0	1.5	.5	.5	.5	.5	.5	.0
9	13.5	13.0	---	---	2.0	1.0	.5	.5	.5	.5	1.5	.0
10	13.0	12.0	---	---	3.0	.5	1.0	.5	.5	.5	3.0	1.0
11	11.5	11.0	---	---	6.0	2.5	2.0	.5	.5	.5	2.0	.5
12	13.0	11.5	---	---	6.5	4.5	1.0	.5	.5	.5	2.0	.0
13	12.0	11.0	---	---	4.5	3.0	1.0	.5	.5	.5	1.5	.0
14	12.0	10.5	---	---	3.0	1.5	3.0	1.0	.5	.5	2.5	.5
15	13.0	10.5	---	---	1.5	.0	2.0	1.5	.5	.5	5.0	1.0
16	13.0	12.5	---	---	2.5	.0	4.0	1.5	.5	.5	6.0	2.5
17	14.5	13.0	6.5	3.0	.5	.0	6.0	4.0	.5	.5	8.0	4.5
18	15.5	13.5	7.5	5.0	.0	.0	5.0	4.0	.5	.5	5.5	3.5
19	16.0	14.0	8.5	5.5	.5	.0	4.0	3.0	.5	.5	5.5	3.0
20	17.5	16.0	9.5	7.5	.5	.0	3.0	1.5	.5	.5	7.0	4.5
21	19.0	16.5	10.5	7.0	1.0	.0	2.0	.5	.5	.5	7.0	4.5
22	19.0	17.5	12.0	10.5	2.0	1.0	2.0	1.5	.5	.0	4.5	3.0
23	16.0	13.5	12.0	10.5	5.5	2.0	1.5	.5	.5	.5	5.0	2.5
24	13.5	12.0	10.5	8.0	8.0	5.5	.5	.5	.5	.5	5.5	4.5
25	12.5	11.5	7.5	7.0	8.0	4.5	.5	.5	1.0	.0	5.0	4.5
26	11.5	10.0	9.0	8.0	6.5	3.5	.5	.5	.5	.0	5.0	3.5
27	11.5	9.5	8.5	7.5	6.0	3.0	.5	.5	.0	.0	8.0	3.5
28	13.0	11.5	8.5	5.0	3.0	2.5	.5	.5	.5	.0	6.5	5.0
29	13.5	11.5	5.0	3.0	3.0	1.5	.5	.5	.0	.0	6.0	5.5
30	13.0	10.5	3.0	2.0	2.5	2.0	.5	.5	---	---	6.5	5.5
31	---	---	---	---	2.5	2.0	.5	.5	---	---	7.0	5.5
MONTH	19.0	9.5	12.0	2.0	8.0	.0	6.0	.5	1.0	.0	8.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	6.5	17.5	10.5	24.0	20.0	24.0	19.0	29.0	23.5	28.0	24.0
2	9.5	8.5	18.5	12.5	23.0	20.0	26.0	21.5	27.0	22.5	27.0	24.5
3	8.5	8.0	20.5	12.5	21.5	20.0	27.0	21.0	24.5	22.5	28.5	21.5
4	8.0	6.5	21.5	15.0	20.0	18.0	26.0	21.5	28.5	21.5	24.5	21.5
5	9.0	5.5	21.5	12.5	23.0	17.0	28.0	21.5	27.5	23.5	26.0	21.5
6	10.5	6.5	20.0	11.5	24.5	18.5	24.5	20.5	29.5	24.0	25.5	21.5
7	9.0	7.5	---	---	23.0	20.5	23.0	19.0	30.0	24.5	23.0	20.5
8	11.5	8.5	---	---	20.5	18.5	27.5	21.5	30.5	26.0	24.5	18.5
9	10.0	8.5	---	---	18.0	16.5	25.0	21.5	29.0	26.0	23.5	21.0
10	8.5	7.0	---	---	20.0	15.0	28.0	20.5	27.0	24.5	22.5	19.0
11	10.5	7.0	---	---	21.0	14.0	27.5	21.5	26.0	24.0	22.5	17.5
12	10.0	8.5	---	---	23.0	15.0	26.0	22.0	25.5	22.5	22.0	18.5
13	10.5	7.5	23.0	18.0	24.0	17.0	27.0	20.0	26.5	21.0	24.5	20.5
14	8.5	7.0	22.0	18.5	22.5	19.0	28.0	21.0	26.5	23.0	25.0	22.0
15	7.5	7.0	19.5	14.5	21.0	17.5	30.5	24.0	26.0	24.0	22.5	19.5
16	9.0	6.0	19.5	13.5	20.5	16.0	30.5	26.5	24.5	21.0	20.5	18.0
17	11.0	6.5	18.0	16.0	22.0	15.5	29.5	25.0	22.5	19.5	19.5	17.5
18	14.0	8.0	17.5	15.5	24.0	17.0	28.5	23.5	21.5	19.0	20.0	15.5
19	15.5	9.5	19.0	18.5	25.5	19.0	30.0	24.0	24.5	20.5	21.5	16.0
20	16.5	12.0	19.5	18.0	23.5	17.5	31.5	25.0	25.5	22.5	23.5	16.5
21	17.0	11.0	21.0	16.0	24.0	18.0	30.0	20.0	27.0	23.0	26.0	21.0
22	18.0	12.0	23.5	16.0	26.0	18.5	28.0	20.0	23.5	22.0	27.0	23.5
23	17.5	14.0	21.0	17.5	27.0	20.5	29.5	26.5	24.5	20.5	24.5	20.0
24	16.5	11.5	21.5	18.5	25.0	23.0	27.5	21.0	25.5	20.5	20.0	18.5
25	14.5	10.5	24.0	18.5	28.0	21.5	28.5	22.0	25.5	21.0	20.0	17.0
26	16.0	10.0	23.0	17.0	29.0	23.0	29.0	23.0	28.5	21.5	19.0	16.0
27	13.0	10.5	22.0	16.0	28.5	24.5	28.5	24.0	27.5	22.5	17.0	13.5
28	12.5	10.0	24.5	18.0	28.5	23.0	25.0	22.5	28.0	23.0	18.0	14.5
29	13.5	9.5	24.0	19.5	29.0	24.0	28.0	21.5	27.5	24.0	19.0	15.0
30	15.5	10.0	25.5	21.5	24.0	21.0	28.5	21.5	27.5	24.5	20.0	15.5
31	---	---	26.0	21.0	---	---	28.0	22.0	28.0	23.0	---	---
MONTH	18.0	5.5	26.0	10.5	29.0	14.0	31.5	19.0	30.5	19.0	28.0	13.5
YEAR	31.5	.0										

04199000 HURON RIVER AT MILAN, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	8.8	6.8	13.8	13.0	---	---	13.9	12.4	14.1	13.3
2	---	---	12.0	7.1	13.7	13.2	---	---	14.0	12.5	13.9	13.4
3	---	---	12.3	8.5	13.7	13.3	---	---	14.0	12.7	13.8	13.3
4	---	---	12.9	9.5	13.7	13.1	13.4	12.2	13.7	12.4	13.5	12.9
5	9.9	8.7	13.8	9.8	13.1	12.1	13.7	12.1	13.6	12.2	13.5	12.6
6	10.9	9.4	12.2	9.2	13.6	12.3	12.6	12.0	13.3	11.9	14.1	13.5
7	11.0	9.6	12.2	9.0	13.0	12.6	12.7	12.1	13.6	11.9	14.8	13.6
8	11.8	10.0	12.4	10.2	13.3	12.6	12.7	12.4	14.2	12.3	14.4	13.7
9	11.7	9.9	12.2	9.9	13.7	13.3	12.6	12.3	13.4	12.1	14.7	13.9
10	12.6	10.4	13.0	10.0	13.9	12.6	12.7	12.2	12.8	11.8	14.2	13.4
11	12.5	10.6	13.2	11.6	12.9	10.9	12.5	11.6	14.1	11.4	14.7	13.8
12	13.1	10.6	15.0	12.0	12.7	10.6	13.7	12.3	14.5	13.0	15.0	14.3
13	14.0	10.9	14.3	11.9	12.7	11.9	13.7	13.1	15.1	12.9	14.9	14.2
14	14.2	11.2	14.6	11.8	13.4	12.2	13.3	12.6	14.5	13.4	14.5	14.2
15	14.0	10.8	14.2	11.5	13.9	13.3	13.1	12.7	13.7	12.9	15.0	13.3
16	13.7	10.4	14.6	11.1	13.8	13.4	12.9	11.8	13.1	12.4	14.6	12.9
17	14.7	10.2	13.4	11.3	14.5	13.8	12.4	10.9	12.6	11.5	13.5	12.8
18	15.3	9.9	14.1	10.9	14.6	13.9	11.8	11.2	---	---	14.2	13.1
19	13.6	9.4	14.9	10.7	14.2	13.6	12.0	11.5	---	---	14.5	13.4
20	13.1	7.4	14.6	10.5	14.7	13.8	12.2	11.7	---	---	13.9	12.8
21	11.8	6.2	14.2	9.5	14.2	13.6	12.4	11.9	---	---	14.2	12.7
22	10.9	5.8	11.2	8.6	13.5	13.0	12.4	11.9	---	---	15.0	14.3
23	10.2	5.5	9.9	8.2	13.2	12.2	12.9	11.9	---	---	15.0	14.2
24	12.5	8.4	10.7	9.0	12.2	11.2	13.4	12.4	---	---	14.2	13.9
25	14.4	9.7	11.3	10.8	12.6	11.2	13.0	12.5	---	---	14.5	11.7
26	13.2	10.1	11.5	10.2	13.1	12.7	13.2	12.6	---	---	12.0	11.5
27	---	---	11.1	10.5	13.3	12.8	13.0	12.5	---	---	12.3	11.2
28	---	---	12.0	10.9	13.2	13.0	13.3	12.2	---	---	11.7	11.0
29	---	---	12.7	12.0	13.6	13.1	13.3	12.5	13.6	13.1	11.8	10.8
30	---	---	13.1	12.3	---	---	13.2	12.4	---	---	11.7	11.1
31	12.5	7.2	---	---	---	---	13.1	12.2	---	---	11.5	10.9
MONTH	15.3	5.5	15.0	6.8	14.7	10.6	13.7	10.9	15.1	11.4	15.0	10.8

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.6	11.0	11.8	8.3	10.5	6.7	10.3	8.0	8.8	7.4	11.1	6.6
2	11.4	10.7	---	---	9.4	7.0	10.4	7.8	8.5	6.8	10.2	6.0
3	11.6	10.5	---	---	9.2	8.7	11.0	7.8	8.6	8.2	11.0	6.9
4	11.4	10.1	---	---	9.4	9.0	10.7	6.7	9.6	7.7	10.7	6.7
5	11.8	10.9	---	---	10.5	8.1	9.9	6.6	9.0	8.1	10.3	6.3
6	11.4	10.4	---	---	10.5	7.7	9.6	7.6	9.5	7.7	10.1	6.2
7	11.1	10.6	---	---	10.1	6.4	9.7	8.8	9.2	6.6	10.0	6.3
8	10.9	9.6	---	---	9.5	8.7	8.9	7.9	10.2	6.4	10.2	6.5
9	10.7	10.2	---	---	9.9	9.5	9.3	8.0	10.8	6.2	9.3	5.9
10	11.4	10.6	---	---	10.4	9.5	9.4	8.1	9.6	6.1	10.3	6.2
11	11.4	10.1	---	---	11.0	9.4	8.9	7.4	9.8	6.1	10.9	6.9
12	10.6	10.0	---	---	11.2	8.7	8.8	7.9	10.6	6.7	10.7	6.7
13	11.4	10.4	11.9	7.4	11.3	8.3	9.4	8.3	12.8	7.3	10.3	6.3
14	11.5	10.4	12.4	7.3	11.5	8.2	9.6	8.2	12.5	7.1	9.2	5.8
15	11.3	11.1	14.0	8.5	10.7	8.0	10.1	7.5	12.5	6.8	8.1	6.3
16	12.1	11.2	14.7	8.1	10.9	9.0	11.1	7.2	12.5	7.2	9.6	6.5
17	12.0	10.7	10.7	7.6	11.6	8.7	13.4	7.1	10.4	7.3	9.0	6.4
18	12.7	9.8	9.8	8.1	13.0	8.5	14.2	7.4	9.0	8.2	10.8	7.7
19	11.1	9.6	9.7	8.8	13.9	8.0	13.5	7.0	8.8	8.0	11.0	7.3
20	11.1	9.6	10.8	8.9	13.0	8.0	13.0	6.6	9.0	7.7	11.1	6.7
21	11.9	9.1	11.1	8.7	13.0	7.7	11.2	6.2	9.7	6.2	10.2	5.8
22	12.3	8.2	11.8	7.9	13.6	8.0	9.5	6.3	8.8	8.0	9.4	5.3
23	13.1	8.2	11.7	7.9	12.9	7.1	9.3	8.3	9.1	8.2	9.5	3.5
24	13.8	8.9	11.8	8.0	11.0	6.5	10.6	8.2	10.0	8.2	10.2	7.1
25	14.5	9.6	13.0	7.6	13.3	6.4	10.9	8.1	10.5	7.7	11.3	7.1
26	15.1	9.2	13.6	7.7	12.5	7.1	11.6	7.5	11.4	7.6	10.8	7.1
27	14.0	9.2	14.1	7.7	12.1	6.3	11.0	6.8	11.9	7.2	11.2	7.6
28	13.9	9.6	14.4	7.1	11.9	6.9	10.4	6.8	12.7	6.8	11.1	7.6
29	14.5	8.7	14.0	6.1	11.5	6.5	9.4	8.0	12.5	6.5	10.7	6.9
30	13.1	8.1	13.0	5.4	10.7	7.3	9.1	8.4	12.0	6.4	10.4	6.5
31	---	---	11.3	4.9	---	---	9.1	8.1	11.0	6.2	---	---
MONTH	15.1	8.1	14.7	4.9	13.9	6.3	14.2	6.2	12.8	6.1	11.3	3.5
YEAR	15.3	3.5										

04199000 HURON RIVER AT MILAN, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
06...	1100	255	670	8.2	28	--	--	7.9	463	.63
06...	1200	249	674	8.2	27	--	--	8.0	406	.55
06...	1300	245	681	8.3	31	--	--	8.1	471	.64
06...	1400	239	692	8.2	21	--	--	8.1	453	.62
19...	1200	50	788	8.1	23	--	--	1.0	565	.77
DEC										
17...	1130	495	833	8.3	12	50	49	4.7	624	.85
18...	0230	479	857	8.4	18	175	41	6.5	595	.81
18...	0430	457	862	8.5	23	170	48	6.5	613	.83
18...	0600	434	880	8.4	16	170	53	6.4	626	.85
18...	1230	335	885	8.3	14	178	48	6.4	626	.85
18...	1630	319	859	8.5	15	171	52	6.5	593	.81
18...	2030	310	857	8.4	15	168	46	6.3	566	.77
19...	0030	319	852	8.4	12	167	45	6.3	549	.75
19...	0430	324	855	8.4	14	171	44	6.2	550	.75
19...	0830	338	870	8.4	12	176	42	6.1	572	.78
28...	1030	492	576	7.9	25	180	44	6.1	373	.51
JAN										
11...	1430	271	715	8.0	45	119	46	6.0	422	.57
11...	2030	745	562	7.7	58	95	28	5.7	282	.38
12...	0230	1880	489	7.8	71	85	22	5.4	217	.30
12...	0830	2020	391	7.5	86	58	--	5.0	131	.18
12...	1430	2050	403	7.5	58	61	20	5.0	150	.20
12...	2030	968	426	7.3	80	66	22	5.3	163	.22
13...	0230	726	459	7.7	49	72	24	5.5	201	.27
13...	0830	606	461	7.4	41	77	25	5.7	212	.29
13...	1430	526	482	7.7	32	71	26	5.9	244	.33
13...	2030	555	503	7.6	91	84	26	6.1	252	.34
13...	2400	537	530	7.7	39	90	27	6.3	267	.36
15...	1530	275	633	7.9	18	114	30	6.9	349	.47
15...	1600	275	623	7.4	24	115	29	6.7	344	.47
FEB										
28...	1530	1270	657	8.2	51	128	39	5.7	480	.65
28...	2130	1020	640	8.2	58	132	37	5.7	--	--
29...	0330	989	697	8.3	48	145	42	6.1	300	.41
29...	0930	1140	724	8.3	50	151	45	6.3	--	--
29...	1530	1190	724	8.2	--	145	50	6.0	--	--
29...	2130	1110	728	8.2	35	145	50	6.1	382	.52
MAR										
01...	0330	1010	721	8.3	44	146	47	5.9	533	.72
01...	0930	1030	745	8.2	39	151	47	6.4	547	.74
01...	1530	1140	758	8.1	44	149	53	6.0	540	.73
01...	2130	1070	746	8.2	48	151	45	5.9	496	.67

04199000 HURON RIVER AT MILAN, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
06...	319	84	2.7	.04	1.3	1.3	4.1	18	.236	6.8
06...	273	86	2.5	.00	1.2	1.1	3.8	17	.227	6.8
06...	312	77	2.5	.00	1.1	1.1	3.6	16	.218	7.0
06...	292	68	2.3	.00	.53	.53	2.9	13	.401	6.8
19...	76.3	25	.75	.00	.21	.21	.96	4.2	.394	6.8
DEC										
17...	834	7	.00	.03	.63	.66	.66	2.9	.263	6.0
18...	770	5	3.2	.00	.68	.69	4.0	18	.324	5.6
18...	756	3	3.8	.00	.50	.51	4.4	19	.330	6.3
18...	734	2	3.7	.00	.73	.74	4.4	20	.342	6.1
18...	566	4	3.7	.01	.62	.63	4.3	19	.435	6.3
18...	511	5	3.9	.01	.66	.68	4.6	20	.328	5.6
18...	474	6	3.4	.00	.64	.64	4.1	18	.324	6.2
19...	473	5	3.3	.01	.32	.33	3.7	16	.314	6.2
19...	481	4	3.2	.00	.61	.61	3.8	17	.277	5.9
19...	522	5	3.1	.00	.57	.57	3.7	17	.207	5.6
28...	495	42	3.0	.00	1.4	1.4	4.4	20	.189	9.1
JAN										
11...	309	177	3.7	.00	1.8	1.8	5.6	25	.425	6.8
11...	567	449	4.3	.02	2.8	2.7	7.1	32	.641	9.7
12...	1100	477	4.2	.01	2.7	2.7	7.0	31	.636	10
12...	714	435	4.5	.00	3.0	3.0	7.5	33	.678	11
12...	830	314	4.9	.00	2.1	2.1	7.1	31	.564	10
12...	426	220	5.1	.00	2.5	2.4	7.6	34	.445	10
13...	394	127	5.3	.01	1.8	1.7	7.1	31	.370	9.7
13...	347	94	5.2	.15	1.6	1.7	7.0	31	.325	9.0
13...	347	85	5.3	.00	1.6	1.6	7.0	31	.295	9.1
13...	378	76	3.8	.00	1.5	1.5	5.4	24	.284	8.9
13...	387	80	5.5	.00	1.5	1.5	7.0	31	.255	8.3
15...	259	29	4.6	.00	.89	.89	5.6	25	.205	7.3
15...	255	25	4.3	.00	1.4	1.4	5.8	26	.196	7.5
FEB										
28...	1650	30	3.9	.00	.71	.71	4.7	21	.179	5.9
28...	--	17	3.8	.00	.69	.69	4.5	20	.186	5.7
29...	801	13	4.0	.00	.61	.61	4.6	20	.226	5.9
29...	--	8	3.9	.00	.59	.59	4.6	20	.231	5.9
29...	--	11	4.0	.00	.63	.63	4.7	21	.255	6.4
29...	1150	9	3.9	.00	.59	.60	4.5	20	.275	7.3
MAR										
01...	1450	10	3.9	.00	.56	.57	4.5	20	.234	6.0
01...	1520	8	3.9	.00	.68	.68	4.6	21	.258	6.4
01...	1660	7	3.9	.00	.68	.68	4.7	21	.352	6.2
01...	1430	6	3.9	.00	.71	.71	4.7	21	.342	5.9

04199000 HURON RIVER AT MILAN, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
MAR										
02...	0330	1000	756	8.2	47	158	43	6.2	515	.70
02...	0930	1000	746	8.2	49	154	44	5.9	537	.73
12...	1400	495	550	7.7	63	99	29	5.5	399	.54
JUN										
02...	2230	653	--	--	--	--	--	5.2	--	--
03...	0030	699	--	--	--	--	--	5.5	--	--
03...	0230	689	--	--	--	--	--	5.6	--	--
03...	0430	692	--	--	--	--	--	5.7	--	--
03...	0630	696	--	--	--	--	--	5.9	--	--
03...	0830	676	--	--	--	--	--	5.7	--	--
03...	1030	640	--	--	--	--	--	6.1	--	--
04...	0930	424	--	--	--	--	--	6.7	--	--
07...	2200	712	522	7.9	--	--	--	6.1	--	--
07...	2400	1160	581	7.9	--	--	--	7.8	--	--
08...	0200	1150	546	7.9	--	--	--	6.9	--	--
08...	0400	1150	522	7.8	--	--	--	7.2	--	--
08...	0600	1090	534	7.8	--	--	--	6.8	--	--
08...	0800	1040	510	7.7	--	--	--	6.3	--	--
08...	1000	1000	512	7.6	--	--	--	6.7	--	--
08...	1200	985	501	7.8	--	--	--	6.6	--	--
08...	1400	1060	525	7.8	--	--	--	6.7	--	--
08...	1600	1050	546	7.9	--	--	--	7.1	--	--
08...	1800	985	589	8.0	--	--	--	7.0	--	--
08...	2000	878	602	8.0	--	--	--	7.4	--	--
24...	1530	49	737	7.8	--	--	--	2.0	--	--
JUL										
06...	0330	653	602	8.1	--	--	--	10	--	--
06...	0530	581	722	8.3	--	--	--	9.2	--	--
06...	0930	531	434	7.8	--	--	--	5.7	--	--
06...	1130	457	398	7.8	--	--	--	5.1	--	--
06...	1300	416	404	7.8	--	--	--	4.9	--	--
15...	1600	29	618	8.1	--	--	--	6.3	--	--
29...	0100	292	524	7.3	--	--	--	7.2	--	--
29...	0200	282	415	7.7	--	--	--	6.4	--	--
29...	0300	271	361	7.5	--	--	--	4.9	--	--
29...	0400	261	310	7.5	--	--	--	4.3	--	--
29...	0500	253	304	7.4	--	--	--	4.3	--	--
29...	0600	243	314	7.4	--	--	--	4.3	--	--
29...	0700	235	327	7.4	--	--	--	4.3	--	--
29...	0800	232	463	7.5	--	--	--	4.3	--	--
30...	1000	115	406	7.4	--	--	--	5.7	--	--

04199000 HURON RIVER AT MILAN, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR										
02...	1390	5	3.8	.00	.51	.52	4.4	20	.268	6.5
02...	1450	6	3.8	.01	.54	.55	4.4	19	.279	5.7
12...	533	62	4.7	.26	1.2	1.4	6.1	27	.213	4.1
JUN										
02...	--	373	11	.01	3.0	3.0	15	66	.814	--
03...	--	412	12	.00	2.7	2.7	15	69	.584	--
03...	--	381	12	.00	2.7	2.7	15	67	.520	--
03...	--	329	12	.00	2.1	2.1	14	63	.493	--
03...	--	281	12	.01	2.1	2.0	14	63	.422	--
03...	--	253	11	.00	2.6	2.5	14	64	.384	--
03...	--	223	12	.01	2.1	2.1	14	64	.352	--
04...	--	79	15	.01	1.7	1.6	17	75	.298	--
07...	--	1308	11	.15	4.6	4.7	16	72	1.344	--
07...	--	1374	13	.26	4.7	4.9	18	81	1.413	--
08...	--	1450	14	.09	5.1	5.1	19	86	1.369	--
08...	--	1383	15	.09	4.7	4.8	20	90	1.318	--
08...	--	1289	16	.15	4.2	4.3	21	92	1.256	--
08...	--	1402	15	.17	4.6	4.8	21	92	1.306	--
08...	--	1313	16	.06	4.1	4.1	20	90	1.236	--
08...	--	1113	16	.12	3.4	3.4	20	87	1.075	--
08...	--	1085	14	.15	3.6	3.7	19	83	1.026	--
08...	--	1138	13	.14	3.7	3.8	18	78	1.035	--
08...	--	935	12	.08	2.7	2.8	15	67	.883	--
08...	--	768	12	.15	2.8	2.9	15	69	.755	--
24...	--	8	2.3	.05	.88	.94	3.3	15	.498	--
JUL										
06...	--	1085	5.0	.00	4.8	4.8	9.9	44	1.219	--
06...	--	717	2.7	.00	2.7	2.7	5.5	24	.853	--
06...	--	1938	3.9	.01	5.7	5.6	9.6	43	1.858	--
06...	--	1245	5.2	.00	4.3	4.2	9.5	42	1.290	--
06...	--	1137	5.6	.04	4.2	4.2	9.9	44	1.303	--
15...	--	35	2.8	.01	1.3	1.3	4.2	19	.473	--
29...	--	2309	1.5	.03	8.5	8.5	10	45	2.202	--
29...	--	1828	1.6	.05	6.7	6.8	8.5	38	2.052	--
29...	--	2232	1.7	.07	5.4	5.4	7.2	32	1.704	--
29...	--	1205	1.8	.04	5.0	5.0	6.9	31	1.153	--
29...	--	907	1.8	.06	3.6	3.7	5.6	25	.910	--
29...	--	666	1.9	.05	2.8	2.8	4.8	21	.722	--
29...	--	278	1.9	.05	3.0	3.0	5.0	22	.640	--
29...	--	476	1.7	.02	2.8	2.7	4.5	20	.535	--
30...	--	214	2.5	.00	1.9	1.9	4.4	20	.410	--

04199500 VERMILION RIVER NEAR VERMILION, OH

LOCATION.--Lat 41°22'55", long 82°19'01", in T.6 N., R.19 W., Lorain County, Hydrologic Unit 04100012, on right bank 40 ft (12 m) downstream from bridge on North Ridge Road, 3.5 mi (5.6 km) southeast of Vermilion and 4.5 mi (7.2 km) upstream from mouth.

DRAINAGE AREA.--262 mi² (679 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1950 to current year.

REVISED RECORDS.--WSP 1912: Drainage area. WDR-OH-70-1: 1969.

GAGE.--Water-stage recorders. Datum of gage is 595.14 ft (181.399 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 3, 1953, nonrecording gage at site 40 ft (12 m) upstream at same datum.

REMARKS.--Records good except those for winter period, which are fair.

AVERAGE DISCHARGE.--30 years, 260 ft³/s (7.363 m³/s), 13.48 in/yr (342 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,800 ft³/s (1,160 m³/s) July 6, 1969, gage height, 17.14 ft (5.224 m), from rating curve extended above 7,000 ft³/s (198 m³/s on basis of contracted-opening measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft³/s (90.6 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1630	*4120	117	*6.52	1.987	Mar. 9	0400	3620	103	6.26	1.908
Mar. 7	1045	3250	92.0	6.06	1.847						

Minimum discharge, 4.6 ft³/s (0.13 m³/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	15	172	181	92	185	1120	51	20	97	22	14
2	32	20	142	180	90	170	509	47	30	48	94	13
3	50	22	115	155	90	150	353	41	76	30	320	12
4	84	32	129	140	89	245	2130	37	100	21	240	15
5	129	38	122	125	88	420	1690	34	110	24	70	19
6	100	31	184	120	88	1000	630	55	100	588	50	21
7	69	30	329	111	88	1500	368	43	135	288	37	19
8	53	27	270	105	87	2500	310	42	300	120	26	14
9	46	31	203	98	87	3100	972	39	500	74	17	12
10	40	78	150	125	88	1490	847	38	320	50	17	11
11	40	194	122	309	86	1060	588	38	135	78	24	9.9
12	38	166	111	1640	86	548	383	39	83	50	55	8.9
13	38	102	111	644	86	363	338	120	58	31	85	9.9
14	34	76	113	301	86	275	824	110	58	24	39	15
15	30	62	108	203	86	231	1770	95	71	30	28	16
16	26	59	96	160	86	212	863	74	150	20	18	17
17	23	53	92	166	86	368	467	76	120	18	15	18
18	23	52	86	200	86	980	301	100	74	13	271	15
19	21	69	120	187	87	735	223	445	51	10	383	15
20	18	65	96	150	88	548	177	329	35	8.4	168	13
21	17	41	92	124	120	1620	146	170	25	7.1	107	11
22	17	45	267	108	750	2230	126	130	26	38	491	9.4
23	15	76	600	102	1470	832	110	110	15	28	399	13
24	15	409	1530	72	730	522	94	95	13	26	161	15
25	15	963	3370	113	350	896	83	82	11	8.9	102	15
26	14	1210	2990	134	260	616	74	72	8.9	8.9	50	15
27	14	1480	1180	120	230	368	66	57	7.5	8.9	33	13
28	15	531	525	106	205	283	62	40	6.3	12	24	12
29	15	341	341	100	190	568	60	23	5.6	16	21	13
30	14	235	252	96	---	921	55	20	146	25	18	12
31	14	---	212	94	---	1480	---	22	---	31	16	---
TOTAL	1094	6511	14238	6475	6055	26396	15739	2674	2858.3	1832.2	3401	417.1
MEAN	35.3	217	459	209	209	851	525	86.3	95.3	59.1	110	13.9
MAX	129	1480	3370	1640	1470	3100	2130	445	500	588	491	21
MIN	14	15	86	72	86	160	55	20	5.6	7.1	15	8.9
CFSM	.14	.83	1.75	.80	.80	3.25	2.00	.33	.36	.23	.42	.05
IN.	.16	.92	2.02	.92	.86	3.75	2.23	.38	.41	.26	.48	.06

CAL YR 1979 TOTAL 106771.0 MEAN 293 MAX 9000 MIN 11 CFSM 1.12 IN 15.16
WTR YR 1980 TOTAL 87682.6 MEAN 240 MAX 3370 MIN 5.6 CFSM .92 IN 12.45

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March 1950 to February 1952, February 1969 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1969 to September 1980 (discontinued).
pH: December 1976 to September 1980 (discontinued).
WATER TEMPERATURES: March to August 1950, February 1969 to September 1980 (discontinued).
DISSOLVED OXYGEN: December 1976 to September 1980 (discontinued).

INSTRUMENTATION.--Water-quality monitor since February 1969.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Sediment data collected at this site 1970 to 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,230 micromhos Nov. 13, 1979; minimum, 150 micromhos Mar. 9, 1980.
pH: Maximum recorded, 9.2 units June 24, 1980; minimum, 7.4 units July 1, 1977.
WATER TEMPERATURES: Maximum, 34.0°C Aug. 5, 1973, July 8, 1974; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 16.6 mg/L Mar. 6, 1979; minimum recorded, 4.0 mg/L Sept. 28, 1979.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 840 micromhos Jan. 9; minimum, 150 micromhos Mar. 9.
pH: Maximum recorded, 9.2 units June 24; minimum recorded, 7.5 units Nov. 26, 27, Mar. 8, 9, Apr. 4, 5.
WATER TEMPERATURES: Maximum, 33.5°C July 20; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum recorded, 16.2 mg/L Jan. 21; minimum recorded, 6.5 mg/L Aug. 18.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	627	597	636	600	448	433	562	532	597	567	444	420
2	627	609	612	576	461	446	574	535	612	588	460	441
3	624	609	609	567	477	459	733	541	636	609	486	462
4	600	582	612	576	493	478	639	591	642	627	498	468
5	606	567	594	561	530	494	693	615	648	630	555	474
6	576	561	609	579	537	519	672	633	639	627	462	357
7	564	531	600	570	541	508	771	639	639	624	366	330
8	555	528	585	564	521	494	717	672	636	618	312	168
9	558	537	588	576	513	498	840	663	636	621	174	150
10	543	519	591	540	530	517	696	648	642	630	261	177
11	528	516	579	540	577	535	831	474	636	627	276	252
12	543	522	540	516	595	577	510	417	642	624	303	267
13	524	516	510	492	580	571	447	411	648	627	336	294
14	546	522	507	486	580	562	480	444	636	618	363	327
15	561	522	489	477	574	553	516	486	660	612	405	351
16	570	549	504	477	580	562	519	381	711	612	447	387
17	585	564	519	480	580	562	456	420	636	624	489	438
18	597	579	540	507	595	583	459	444	648	630	438	378
19	609	591	543	516	625	574	456	446	651	624	384	366
20	630	612	564	534	727	583	459	435	678	633	426	378
21	681	630	579	540	634	509	501	423	657	561	453	294
22	705	639	594	570	595	490	459	438	552	285	288	267
23	669	594	600	564	526	511	477	441	276	204	330	270
24	600	576	549	495	532	463	528	465	264	210	378	324
25	585	558	498	426	466	409	540	495	318	264	363	342
26	558	540	435	420	418	409	516	495	342	306	360	333
27	570	528	426	396	451	418	534	510	366	336	405	339
28	600	570	426	402	484	451	549	525	390	357	438	393
29	621	576	432	417	502	481	570	534	420	387	447	411
30	618	561	435	423	526	502	579	561	---	---	417	384
31	684	582	---	---	541	514	588	567	---	---	378	318
MONTH	705	516	636	396	727	409	840	381	711	204	555	150

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	339	315	535	586	714	657	561	414	519	465	534	486
2	485	339	559	609	732	633	477	411	474	291	519	492
3	462	387	592	642	711	660	477	417	456	360	525	468
4	399	243	616	666	666	627	465	420	453	346	516	480
5	280	237	655	786	---	---	561	435	474	300	531	474
6	369	291	678	720	---	---	483	267	484	438	549	488
7	---	---	741	648	---	---	312	258	537	462	507	474
8	---	---	748	507	---	---	372	306	573	513	537	456
9	---	---	688	572	576	552	376	357	558	534	528	489
10	---	---	671	565	576	531	441	372	540	513	549	483
11	---	---	706	613	630	516	567	411	546	471	546	474
12	426	384	683	639	672	555	492	387	603	510	561	495
13	456	411	759	609	726	612	441	360	558	498	600	495
14	438	330	719	641	732	651	483	399	585	537	540	285
15	318	270	707	620	690	591	537	444	555	492	378	300
16	324	270	665	589	591	495	534	489	489	447	426	372
17	393	321	654	606	678	552	540	480	447	411	450	417
18	468	384	645	600	708	609	534	483	468	263	504	435
19	588	431	584	524	732	639	546	489	282	234	549	462
20	538	478	557	580	669	558	549	501	300	282	570	498
21	584	489	516	501	582	519	534	492	486	360	594	528
22	590	509	---	---	579	516	492	432	456	204	615	573
23	570	555	---	---	565	537	555	450	357	258	588	531
24	538	496	---	---	531	498	573	498	405	357	555	492
25	588	498	---	---	573	486	555	486	387	363	546	495
26	582	552	---	---	660	507	537	492	---	---	516	483
27	582	552	---	---	588	534	561	474	---	---	495	498
28	499	549	717	675	609	513	498	462	510	483	507	446
29	514	564	729	648	669	525	528	465	507	474	534	453
30	526	576	765	672	570	489	546	483	513	480	543	468
31	---	---	768	672	---	---	537	465	513	483	---	---
MONTH	590	237	768	501	732	486	573	258	603	234	615	285
YEAR	840	150										

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.5	8.1	8.1	8.0	7.9	7.8	---	---	8.2	8.1	8.0	7.9
2	8.3	8.1	8.2	8.0	8.0	7.9	---	---	8.2	8.0	8.1	7.9
3	8.3	8.1	8.2	8.1	7.9	7.9	---	---	8.2	8.0	8.1	7.9
4	8.2	8.0	8.2	8.1	8.0	7.9	---	---	8.2	7.9	8.2	8.0
5	8.3	8.0	8.3	8.1	---	---	---	---	8.2	8.0	8.2	8.1
6	8.2	8.1	8.3	8.1	---	---	---	---	8.2	8.0	8.1	7.9
7	8.2	8.0	8.2	8.1	---	---	---	---	8.1	8.0	8.0	7.8
8	8.4	8.1	8.2	8.1	---	---	---	---	8.2	8.0	7.8	7.5
9	8.4	8.1	8.2	8.0	---	---	---	---	8.2	8.0	7.6	7.5
10	8.5	8.1	8.1	7.9	---	---	---	---	8.2	8.0	7.7	7.6
11	8.5	8.2	8.1	8.0	---	---	---	---	8.2	8.0	7.8	7.7
12	8.6	8.2	8.1	8.0	---	---	---	---	8.2	8.0	7.8	7.7
13	8.5	8.3	8.2	7.9	---	---	---	---	8.2	8.0	7.9	7.8
14	8.7	8.2	8.2	7.9	---	---	---	---	8.2	8.1	7.9	7.9
15	8.8	8.3	8.2	7.9	---	---	---	---	8.1	8.0	8.0	8.0
16	8.7	8.3	8.4	8.0	---	---	7.7	7.6	8.0	7.9	8.1	8.0
17	8.8	8.3	8.5	8.1	---	---	7.9	7.8	8.0	7.9	8.1	7.9
18	8.9	8.3	8.6	8.1	---	---	7.9	7.9	8.0	7.8	7.9	7.8
19	8.8	8.3	8.6	8.2	---	---	8.0	7.9	8.1	7.9	7.9	7.8
20	8.7	8.2	8.8	8.2	---	---	8.0	8.0	8.2	8.0	7.9	7.9
21	8.5	8.0	8.8	8.3	---	---	8.0	7.9	8.3	8.1	7.9	7.6
22	8.3	7.9	8.7	8.2	---	---	8.0	8.0	8.1	7.7	7.7	7.6
23	8.2	7.9	8.6	8.1	---	---	8.1	7.9	7.8	7.6	7.8	7.6
24	8.2	8.0	8.0	7.8	---	---	8.0	7.9	7.7	7.6	7.8	7.8
25	8.2	8.0	7.7	7.6	---	---	8.0	7.9	7.8	7.5	7.9	7.8
26	8.2	8.0	7.6	7.5	---	---	8.1	7.9	7.9	7.6	7.9	7.8
27	8.3	8.0	7.6	7.5	---	---	8.2	7.9	8.0	7.9	7.9	7.8
28	8.3	8.1	7.7	7.6	---	---	8.2	8.1	8.1	8.0	7.9	7.9
29	8.3	8.0	7.8	7.7	---	---	8.1	8.0	8.1	8.0	7.9	7.9
30	8.3	8.1	7.8	7.8	---	---	8.2	8.0	---	---	7.9	7.8
31	8.3	8.1	---	---	---	---	8.2	8.1	---	---	7.8	7.7
MONTH	8.9	7.9	8.8	7.5	8.0	7.8	8.2	7.6	8.3	7.6	8.2	7.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.7	7.7	8.8	8.5	8.4	8.0	8.5	8.2	8.6	8.3	9.1	8.5
2	7.8	7.7	8.6	8.4	8.3	8.0	8.5	8.2	8.4	7.9	9.1	8.5
3	7.9	7.7	8.6	8.3	8.2	8.0	8.7	8.2	8.3	8.0	9.0	8.5
4	7.7	7.5	8.5	8.0	8.2	8.1	8.7	8.2	8.3	8.2	8.9	8.5
5	7.6	7.5	8.6	8.3	---	---	8.8	8.3	8.5	8.2	9.0	8.5
6	7.8	7.6	8.6	8.4	---	---	8.4	8.0	8.7	8.3	8.9	8.4
7	---	---	---	---	---	---	8.2	8.1	8.8	8.3	8.9	8.5
8	---	---	---	---	---	---	8.2	8.2	8.9	8.3	9.0	8.6
9	---	---	---	---	8.1	8.0	8.4	8.2	8.9	8.3	8.9	8.5
10	---	---	---	---	8.1	8.0	8.6	8.3	8.8	8.4	8.9	8.6
11	---	---	---	---	8.1	8.1	8.5	8.3	8.6	8.2	8.9	8.6
12	---	---	---	---	8.2	8.1	8.6	8.4	8.7	8.3	8.9	8.6
13	---	---	---	---	8.3	8.1	8.6	8.4	8.8	8.4	8.8	8.4
14	---	---	---	---	8.4	8.1	8.7	8.4	8.9	8.5	8.5	8.0
15	---	---	---	---	8.3	8.1	8.8	8.4	9.0	8.4	8.4	8.2
16	---	---	---	---	8.1	8.0	8.8	8.3	9.0	8.4	8.6	8.3
17	---	---	---	---	8.2	8.0	8.8	8.4	8.9	8.4	8.7	8.4
18	8.3	8.1	---	---	8.4	8.1	8.9	8.4	8.7	8.0	8.8	8.5
19	8.5	8.3	---	---	8.5	8.1	9.0	8.4	8.1	8.0	8.9	8.6
20	8.6	8.5	---	---	8.9	8.2	9.0	8.3	8.3	8.1	9.0	8.6
21	8.6	8.5	---	---	9.0	8.6	9.0	8.3	8.5	8.2	9.0	8.4
22	8.8	8.5	---	---	9.1	8.6	8.6	8.1	8.4	8.1	9.0	8.5
23	9.0	8.6	---	---	9.1	8.5	8.8	8.3	8.3	8.1	9.0	8.5
24	9.1	8.6	---	---	9.2	8.2	8.9	8.4	8.4	8.3	9.0	8.6
25	9.1	8.7	---	---	9.0	8.4	9.0	8.4	8.4	8.4	9.0	8.6
26	9.0	8.7	---	---	9.0	8.2	9.0	8.3	---	---	9.0	8.7
27	9.0	8.7	---	---	9.0	8.1	8.9	8.3	---	---	9.1	8.7
28	8.9	8.7	8.4	8.2	9.0	8.2	8.9	8.2	8.9	8.6	9.0	8.7
29	8.8	8.5	8.4	8.1	8.9	8.2	9.0	8.3	9.0	8.4	9.0	8.7
30	8.8	8.5	8.6	8.0	8.8	8.1	9.0	8.3	9.1	8.5	9.0	8.7
31	---	---	8.4	8.0	---	---	8.8	8.3	9.1	8.5	---	---
MONTH	9.1	7.5	8.8	8.0	9.2	8.0	9.0	8.0	9.1	7.9	9.1	8.0
YEAR	9.2	7.5										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDS 20% OF YEAR

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	18.0	11.5	9.5	1.5	1.0	2.0	1.5	.0	.0	.0	.0
2	19.0	18.0	10.5	7.5	1.5	.0	1.5	1.0	.5	.0	.5	.0
3	18.0	18.5	9.0	5.5	.5	.0	1.5	1.0	.5	.0	.0	.0
4	18.5	14.5	8.5	6.0	.5	.0	1.0	.0	.5	.0	.0	.0
5	15.0	12.5	7.5	4.5	2.5	.0	.0	.0	.0	.0	.0	.0
6	13.0	12.0	8.5	6.0	2.5	1.5	.0	.0	.0	.0	.5	.0
7	12.0	11.0	7.0	5.0	3.0	1.5	.0	.0	.0	.0	.5	.0
8	11.5	10.0	5.0	4.0	3.0	1.5	.0	.0	.5	.0	.5	.0
9	12.0	10.5	6.5	5.0	1.5	1.0	.0	.0	.0	.0	1.0	.0
10	11.0	9.0	7.0	6.5	2.5	.5	.0	.0	.0	.0	2.5	.5
11	9.0	7.5	6.5	4.5	5.5	2.0	.5	.0	.5	.0	2.0	1.0
12	10.5	8.0	5.5	4.0	6.0	4.5	.0	.0	.0	.0	2.0	.0
13	8.5	7.0	4.5	3.0	4.0	2.5	.5	.0	.5	.0	1.5	.5
14	9.0	8.5	5.0	3.5	3.0	1.0	1.5	.5	.0	.0	2.5	.5
15	11.0	8.5	4.5	3.5	1.5	.0	1.0	.5	.0	.0	4.5	.5
16	11.0	9.0	5.5	4.0	2.0	.0	2.5	.5	.0	.0	6.0	2.5
17	12.5	10.5	6.0	3.0	.0	.0	4.0	2.5	.0	.0	6.5	5.0
18	15.5	11.5	8.0	5.0	.0	.0	3.5	3.0	.0	.0	6.0	4.0
19	18.0	12.5	8.0	5.5	.0	.0	3.5	2.5	.5	.0	6.0	3.5
20	18.5	14.5	9.5	7.0	.5	.0	2.5	1.0	.0	.0	7.5	5.0
21	21.0	18.5	9.0	6.5	.5	.0	1.5	.0	.5	.0	7.5	4.5
22	21.5	17.5	11.0	6.5	1.5	.5	1.5	1.0	.5	.0	6.5	3.0
23	18.0	10.5	11.5	10.0	4.0	2.0	1.0	.0	.5	.0	4.5	2.5
24	10.5	8.5	10.0	8.0	7.5	4.0	.0	.0	.0	.0	5.0	4.0
25	8.5	6.5	8.0	7.5	7.5	4.5	.0	.0	.5	.0	4.5	4.0
26	8.5	5.0	8.5	6.0	4.5	3.0	.0	.0	.5	.0	4.5	3.5
27	7.5	3.5	6.5	6.0	3.0	2.5	.5	.0	.5	.0	7.0	2.5
28	9.5	7.0	8.0	5.5	3.0	2.0	.0	.0	.5	.0	6.0	4.5
29	11.0	7.0	5.5	3.5	2.5	1.5	.0	.0	.5	.0	6.5	5.5
30	11.0	6.0	2.5	1.5	2.0	1.0	.5	.0	---	---	7.0	5.5
31	13.5	8.0	---	---	2.0	1.5	.0	.0	---	---	7.0	4.0
MONTH	21.5	3.5	11.5	1.5	7.5	.0	4.0	.0	.5	.0	7.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	6.5	18.0	12.5	22.5	20.0	29.0	26.0	30.0	23.5	29.0	23.0
2	9.5	7.0	20.0	13.5	25.5	20.0	24.5	22.0	28.0	21.5	27.0	23.5
3	9.0	6.5	22.0	14.5	22.5	20.5	28.0	26.5	24.5	21.5	27.5	21.0
4	8.5	7.0	23.0	15.5	20.5	18.5	25.0	21.0	25.5	21.0	25.0	20.5
5	8.5	6.0	24.0	17.0	---	---	28.0	22.0	27.5	23.0	27.5	21.0
6	10.0	6.5	22.0	17.5	---	---	24.0	21.0	28.5	24.0	26.5	20.5
7	---	---	21.0	15.5	---	---	22.5	19.5	30.5	24.5	23.0	19.5
8	---	---	19.5	13.0	---	---	27.0	21.5	32.0	20.0	25.5	18.0
9	---	---	17.0	11.0	18.0	16.5	23.5	21.0	29.5	20.0	23.5	19.5
10	---	---	17.0	11.0	18.5	15.0	28.5	20.5	27.0	24.5	23.5	17.0
11	9.5	7.5	19.5	14.0	20.5	14.0	27.5	22.5	26.0	23.5	22.5	18.0
12	9.0	8.0	18.0	16.0	22.0	15.0	25.5	22.0	27.0	22.0	22.0	17.0
13	10.0	6.5	22.5	15.5	23.5	17.5	28.5	20.0	28.5	21.0	25.0	19.0
14	8.0	6.5	21.0	16.5	24.0	19.0	28.5	20.5	27.0	23.0	22.5	19.5
15	7.0	6.0	19.5	16.5	21.0	17.0	31.5	23.5	26.5	23.0	20.5	18.0
16	8.0	5.5	19.5	14.0	20.0	15.5	32.0	20.5	25.0	20.5	19.5	17.0
17	10.0	5.5	17.5	15.5	21.5	15.0	32.5	25.5	21.5	19.0	18.0	18.5
18	13.0	7.0	17.5	15.0	24.0	17.0	30.0	24.0	23.5	19.0	20.5	14.0
19	15.0	9.5	18.0	15.5	25.5	19.5	31.5	24.0	22.5	19.0	22.0	14.5
20	16.5	12.5	19.0	15.0	24.0	17.0	33.5	25.0	24.5	21.5	23.5	17.0
21	17.5	12.5	17.5	16.5	25.0	18.0	31.5	26.5	27.0	22.0	26.0	19.0
22	19.5	13.5	---	---	28.5	18.5	28.5	23.0	24.0	21.5	27.5	22.0
23	19.0	15.0	---	---	28.0	20.5	27.5	22.0	23.0	20.0	23.0	18.0
24	16.0	12.0	---	---	25.0	22.5	28.5	20.5	24.5	20.0	20.5	19.0
25	16.5	11.0	---	---	30.0	21.0	30.0	20.5	22.5	20.5	19.5	19.0
26	16.0	11.0	---	---	31.5	22.0	30.0	22.0	---	---	17.5	14.5
27	14.0	11.5	---	---	30.5	24.5	28.0	23.0	---	---	17.5	12.0
28	14.5	10.0	25.0	22.0	30.5	22.5	27.5	22.5	25.0	25.5	18.0	12.0
29	15.5	10.5	25.0	19.5	31.0	23.5	28.5	22.0	28.5	23.5	19.5	12.5
30	17.5	11.5	27.0	21.0	29.5	21.0	28.5	22.5	28.5	24.0	20.0	13.5
31	---	---	27.5	21.0	---	---	27.0	22.5	27.5	23.0	---	---
MONTH	19.5	5.5	27.5	11.0	31.5	14.0	33.5	19.5	32.0	19.0	29.0	12.0
YEAR	33.5	.0										

STREAMS TRIBUTARY TO LAKE ERIE

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.8	7.9	10.5	9.8	12.8	10.8	14.3	13.3	16.0	15.6		
2	10.0	8.0	11.3	10.4	12.8	9.7	14.6	13.2	16.0	15.6		
3	9.7	8.3	12.0	10.6	10.7	7.8	14.8	14.0	16.1	15.3		
4	9.8	8.4	11.3	10.3	9.6	8.6	14.1	13.6	15.8	14.7		
5	10.1	8.5	12.3	10.7	12.5	7.9	14.8	13.8	15.9	15.2		
6	10.1	9.2	11.6	10.6	13.1	12.3	14.1	13.5	15.8	15.0		
7	10.7	9.5	11.7	10.7	13.1	11.5	13.9	12.8	16.6	15.3		
8	11.8	10.0	12.7	11.5	13.0	12.5	14.6	13.1	15.8	15.0		
9	11.5	9.7	12.0	10.7	13.1	11.3	14.0	13.5	15.8	14.9		
10	12.0	10.2	10.9	10.6	13.2	11.8	13.9	12.9	15.7	14.7		
11	12.8	10.8	11.8	10.5	12.8	11.0	14.2	12.9	15.9	16.0		
12	12.9	10.7	12.8	11.3	12.7	10.5	14.7	14.1	---	---		
13	12.7	10.8	12.1	11.2	13.0	9.7	14.3	13.8	---	---		
14	12.8	10.6	12.6	11.5	12.7	11.6	14.7	13.7	---	---		
15	12.9	10.8	12.5	11.3	12.9	12.2	14.8	14.3	---	---		
16	12.9	10.5	12.6	11.2	14.3	12.5	15.3	12.3	---	---		
17	13.6	10.1	12.7	11.1	15.3	13.6	14.9	14.5	---	---		
18	15.7	10.5	13.0	10.7	15.0	13.6	15.3	14.9	---	---		
19	14.1	9.2	13.1	10.0	14.7	13.3	15.7	15.8	---	---		
20	12.5	9.1	13.0	10.6	14.5	12.1	16.0	15.6	---	---		
21	11.0	8.2	12.9	9.6	13.5	11.3	16.2	15.6	---	---		
22	10.2	8.0	11.5	8.3	13.3	12.6	15.6	14.7	---	---		
23	11.2	8.1	10.6	8.2	12.7	12.0	15.9	15.3	---	---		
24	11.0	9.3	9.7	8.7	11.9	10.5	15.7	15.3	---	---		
25	12.5	11.6	10.6	9.6	12.6	10.5	16.6	15.3	---	---		
26	14.1	12.5	10.1	9.5	13.8	10.8	16.1	15.8	---	---		
27	14.5	12.9	10.8	9.6	14.1	13.8	15.7	15.3	13.8	12.7		
28	13.5	12.3	11.0	7.8	14.2	14.0	15.9	15.6	14.2	13.6		
29	12.8	11.7	---	---	14.5	12.3	15.9	15.6	14.2	14.2		
30	13.6	11.3	13.1	11.3	14.6	14.1	15.8	14.6	---	---		
31	12.1	9.8	---	---	14.6	14.2	15.8	15.2	---	---		
MONTH	15.7	7.9	13.1	7.8	15.3	7.8	16.2	12.3	16.1	12.7		

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	11.8	8.8	---	---	8.2	7.8	---	---	---	---
2	---	---	10.9	8.3	---	---	8.7	7.8	---	---	---	---
3	---	---	10.6	7.9	---	---	8.8	7.8	---	---	---	---
4	---	---	10.2	7.8	---	---	8.8	7.5	---	---	---	---
5	---	---	9.9	7.6	---	---	8.8	7.7	---	---	10.8	9.1
6	---	---	10.1	7.6	---	---	7.8	7.7	8.3	7.7	10.6	8.8
7	---	---	10.2	7.9	---	---	8.0	7.8	8.3	7.7	10.0	8.7
8	---	---	---	---	---	---	8.0	7.9	8.6	7.5	10.7	8.6
9	---	---	---	---	---	---	8.0	7.8	8.5	7.6	9.7	8.2
10	---	---	---	---	---	---	8.0	7.7	8.1	7.2	10.3	8.6
11	---	---	---	---	---	---	7.8	7.7	7.8	7.8	9.9	8.3
12	11.0	10.5	---	---	---	---	7.9	7.5	7.9	7.8	9.8	8.3
13	11.5	10.1	---	---	---	---	7.8	7.6	8.0	7.2	10.3	8.6
14	10.7	10.1	---	---	---	---	8.1	7.5	8.1	7.2	9.8	8.6
15	10.6	10.6	---	---	---	---	8.2	7.6	8.1	7.1	9.9	8.3
16	12.8	9.5	---	---	---	---	8.1	7.2	7.8	7.8	9.8	8.3
17	10.6	8.8	---	---	---	---	8.8	7.1	7.3	8.9	9.8	8.3
18	9.6	8.8	---	---	---	---	8.8	7.8	7.5	8.5	9.8	7.8
19	10.1	8.8	---	---	---	---	---	---	7.3	8.8	10.8	8.1
20	9.3	7.7	---	---	---	---	---	---	7.6	7.1	10.2	8.5
21	9.5	7.6	---	---	---	---	---	---	7.5	8.8	10.7	8.7
22	9.8	7.1	---	---	---	---	---	---	7.2	8.8	10.5	8.7
23	8.1	8.7	---	---	---	---	---	---	7.6	8.8	9.8	8.2
24	8.8	7.8	---	---	10.5	8.6	---	---	7.6	7.1	9.5	7.8
25	10.9	8.1	---	---	10.6	8.2	---	---	7.3	8.8	9.2	7.8
26	12.6	9.2	---	---	10.3	7.7	---	---	---	---	8.8	7.8
27	12.2	9.1	---	---	9.9	7.6	---	---	---	---	9.3	7.8
28	12.6	9.5	---	---	9.8	7.8	---	---	---	---	8.6	7.8
29	12.3	9.1	---	---	9.8	7.2	---	---	---	---	8.6	7.8
30	12.1	9.1	---	---	9.8	7.2	---	---	---	---	8.8	7.7
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	12.8	8.7	11.8	7.6	10.6	7.2	8.8	7.0	8.8	8.5	10.8	7.8
YEAR	16.2	6.5										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
DEC										
22...	1430	358	505	7.6	31	111	53	6.3	300	.42
22...	2130	381	524	7.3	35	98	43	6.0	302	.41
23...	0230	488	520	7.6	32	79	31	6.0	303	.41
23...	0830	505	536	7.6	31	65	31	6.0	270	.38
23...	1430	666	510	7.7	32	68	30	6.0	326	.44
23...	2030	726	490	7.5	29	79	29	5.2	330	.45
24...	0230	866	520	7.6	27	79	28	5.3	326	.44
24...	0830	673	496	7.5	47	66	44	5.3	330	.45
24...	1430	2050	387	7.4	79	47	30	5.2	270	.37
24...	2030	2100	383	7.3	62	58	23	5.8	291	.40
25...	0230	2700	388	7.2	71	54	22	5.9	291	.40
25...	0830	623	410	7.4	35	51	20	5.5	313	.43
FEB										
22...	1000	252	540	7.7	140	88	45	3.6	300	.38
22...	1800	422	440	7.6	166	84	33	3.8	250	.34
22...	2200	735	441	7.6	180	64	32	3.9	250	.34
23...	0200	1140	370	7.5	231	56	25	3.8	215	.29
23...	0600	1600	352	7.3	206	53	23	3.7	210	.29
23...	1000	2010	316	7.3	--	60	20	3.6	183	.25
23...	1400	1670	288	7.2	183	41	18	3.5	166	.23
23...	1800	1610	281	7.2	152	42	18	3.5	163	.22
23...	2200	1300	282	7.2	141	42	17	3.7	166	.23
24...	0200	1030	281	7.3	126	45	17	3.4	155	.21
24...	0600	680	290	7.6	414	60	17	3.6	162	.22
MAR										
12...	1600	315	570	7.6	83	--	--	6.0	410	.56
APR										
09...	0200	936	401	7.5	156	--	--	3.2	189	.26
09...	0600	1430	436	7.6	232	--	--	3.2	163	.22
09...	1000	1400	356	7.6	184	--	--	3.1	169	.23
09...	1400	2510	330	7.7	229	--	--	3.0	166	.23
09...	1800	2630	283	7.6	255	--	--	3.2	117	.16
09...	2200	2670	282	7.7	222	--	--	3.3	132	.18
10...	0200	2400	275	7.6	173	--	--	3.1	130	.18
10...	0600	2110	276	7.6	157	--	--	3.2	155	.21
10...	1400	1730	280	7.6	142	--	--	3.2	152	.21
11...	1300	640	383	7.6	82	--	--	3.6	217	.30
16...	1000	216	635	8.2	--	--	--	--	--	--
16...	1030	216	640	8.3	--	--	--	--	--	--
16...	1230	260	600	8.3	--	--	--	--	--	--
16...	1430	250	600	8.2	--	--	--	--	--	--
16...	1630	263	670	8.3	--	--	--	--	--	--

04199500 VERMILION RIVER NEAR VERMILION, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC										
22...	363	184	2.0	.01	1.6	1.5	3.7	16	.288	8.0
22...	352	131	3.0	.00	1.7	1.6	4.7	21	.306	9.4
23...	470	92	3.7	.00	1.0	1.0	4.8	21	.242	9.0
23...	564	78	4.0	.02	1.2	1.2	5.3	23	.221	9.1
23...	582	78	4.2	.00	1.6	1.6	5.9	26	.229	9.6
23...	629	83	4.8	.00	1.4	1.4	6.2	28	.216	14
24...	581	63	5.2	.00	1.2	1.2	6.4	28	.182	9.8
24...	888	282	4.9	.00	1.4	1.4	6.3	28	.349	9.9
24...	1490	573	4.3	.01	1.8	1.8	6.2	27	.659	11
24...	1840	414	4.1	.03	2.8	2.8	6.9	31	.562	11
25...	2090	442	4.4	.02	2.8	2.8	7.3	32	.591	12
28...	354	76	4.7	.00	.97	.97	5.7	25	.206	10
FEB										
22...	259	214	3.0	.01	1.6	1.6	4.7	21	.417	7.8
22...	365	365	3.9	.01	2.2	2.1	6.1	27	.605	9.2
22...	514	508	3.8	.01	2.4	2.3	6.2	28	.643	9.8
23...	662	628	4.5	.01	3.0	2.9	7.5	33	.815	10
23...	953	592	4.5	.01	2.7	2.7	7.3	32	.718	10
23...	1050	515	4.7	.01	2.6	2.6	7.3	32	.668	9.7
23...	980	378	4.6	.00	2.4	2.3	7.1	31	.521	8.8
23...	839	313	4.5	.02	1.8	1.8	6.4	29	.448	9.0
23...	619	271	4.5	.01	1.7	1.6	6.2	27	.406	8.7
24...	431	239	4.6	.05	1.4	1.4	6.1	27	.371	8.6
24...	385	208	4.4	.01	1.4	1.4	5.9	26	.331	8.1
MAR										
12...	197	60	3.5	.14	.90	1.0	4.6	20	.149	8.0
APR										
04...	477	1013	2.6	.01	4.0	4.0	6.6	29	.897	--
04...	632	1132	2.4	.05	4.9	4.9	7.5	33	1.195	--
04...	797	960	2.6	.01	4.2	4.2	6.8	30	1.020	--
04...	989	1121	2.7	.03	4.7	4.7	7.4	33	1.165	--
04...	894	1271	2.7	.05	5.4	5.4	8.2	36	1.301	--
04...	1020	1070	2.7	.04	4.7	4.7	7.5	33	1.145	--
05...	979	839	2.6	.02	3.9	3.9	6.6	29	.912	--
05...	883	651	2.6	.01	3.5	3.5	6.2	28	.754	--
05...	710	526	2.6	.04	3.2	3.2	5.9	26	.655	--
11...	281	90	2.3	.03	1.4	1.4	3.8	17	.250	--
19...	--	69	2.[illegible]	.01	.76	.77	3.4	15	.092	--
19...	--	32	2.5	.00	.77	.78	3.3	15	.092	--
19...	--	27	2.6	.00	.73	.74	3.3	15	.082	--
19...	--	26	2.7	.02	.69	.71	3.5	15	.072	--
19...	--	28	2.5	.01	.52	.53	3.1	14	.091	--

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR												
19...	1830	197	475	8.3	24	2.5	.01	1.2	1.1	3.8	17	.081
19...	2030	194	476	8.3	26	2.5	.01	.58	.60	3.2	14	.071
19...	2230	190	476	8.3	27	2.5	.01	.50	.51	3.0	13	.077
20...	0030	190	478	8.3	28	2.5	.01	.67	.68	3.3	14	.090
20...	0230	187	477	8.3	30	2.5	.01	.53	.55	3.1	14	.068
20...	0430	184	481	8.3	24	2.6	.02	.70	.72	3.3	15	.073
MAY												
19...	1600	390	526	7.6	44	7.5	.02	1.2	1.1	8.7	39	.131

04200430 WEST BRANCH BLACK RIVER ABOVE LAKE STREET AT ELYRIA, OH

LOCATION.--Lat 41°22'14", long 82°06'47", Lorain County, Hydrologic Unit 04110001, on right bank, 400 ft (120 m) upstream from Lake Street Bridge and 1,600 ft (500 m) upstream of confluence with East Branch Black River at Elyria, Ohio.

DRAINAGE AREA.--174 mi^2 (451 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 700 ft (213 m) from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,080 ft^3/s (30.6 m^3/s) Aug. 19, 1980, gage height, 5.33 ft (1.625 m), minimum, 3.10 ft^3/s (0.088 m^3/s) July 20, 21, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period June through September, 1,080 ft^3/s (30.6 m^3/s) Aug. 19, gage height, 5.33 ft (1.625 m); minimum discharge, 3.1 ft^3/s (0.088 m^3/s) July 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	4.3	37	41
2									---	4.3	206	44
3									---	3.9	662	119
4									---	3.3	434	56
5									---	5.9	216	47
6									---	114	92	66
7									---	144	52	30
8									---	55	30	14
9									---	34	16	12
10									---	27	22	13
11									---	38	47	30
12									---	32	97	18
13									---	14	146	25
14									---	8.8	60	261
15									---	7.1	37	92
16									---	12	24	41
17									---	10	18	33
18									---	8.1	187	27
19									---	4.3	688	20
20									---	3.3	175	15
21									---	4.6	148	11
22									---	28	621	15
23									---	30	423	29
24									10	20	142	38
25									9.2	12	78	30
26									8.1	6.2	53	21
27									6.8	18	34	14
28									6.2	114	24	13
29									4.1	381	19	12
30									4.3	154	18	11
31									---	81	36	---
TOTAL									---	1382.1	4842	1198
MEAN									---	44.6	156	39.9
MAX									---	381	688	261
MIN									---	3.3	16	11
CFSM									---	.26	.90	.23
IN.									---	.30	1.04	.26

04200430 WEST BRANCH BLACK RIVER ABOVE LAKE STREET AT ELYRIA, OH--Continued

SEDIMENT ANALYSES

PERIOD OF RECORD.--Water years June to September 1980.

REMARKS.--Sediment sampling site is at gage for low water sampling and at bridge approximately 700 ft (213 m) below discharge station for high water sampling, and a third site is located at the Broad Street Bridge about 1,700 ft (518 m) upstream of discharge station for high water sampling.

PERIOD OF DAILY RECORD.--June to September 1980.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1							---	---	---
2							---	---	---
3							---	---	---
4							---	---	---
5							---	---	---
6							---	---	---
7							---	---	---
8							---	---	---
9							---	---	---
10							---	---	---
11							---	---	---
12							---	---	---
13							---	---	---
14							---	33	---
15							---	57	---
16							---	57	---
17							---	58	---
18							---	37	---
19							---	28	---
20							---	24	---
21							---	22	---
22							---	14	---
23							---	13	---
24							10	11	.30
25							9.2	8	.20
26							8.1	8	.17
27							6.8	7	.13
28							6.2	7	.12
29							4.1	8	.09
30							4.3	7	.08
31							---	---	---
TOTAL							48.7	---	1.09

04200430 WEST BRANCH BLACK RIVER ABOVE LAKE STREET AT ELYRIA, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	4.3	9	.10	37	50	5.0	41	52	5.8
2	4.3	10	.12	206	195	171	44	60	16
3	3.9	8	.08	662	397	710	119	250	89
4	3.3	8	.07	434	255	299	56	99	16
5	5.9	29	.55	216	152	89	47	77	12
6	114	442	387	92	118	29	66	140	25
7	144	488	233	52	96	13	30	69	5.6
8	55	140	21	30	48	3.9	14	40	1.5
9	34	128	12	16	33	1.4	12	28	.91
10	27	107	7.8	22	64	4.7	13	20	.70
11	38	83	9.9	47	92	11	30	39	3.2
12	32	92	7.9	97	65	17	18	20	.97
13	14	61	2.3	146	110	43	25	103	14
14	8.8	33	.78	60	62	10	261	442	311
15	7.1	20	.38	37	43	4.3	92	220	55
16	12	15	.49	24	31	2.0	41	78	8.6
17	10	15	.41	18	25	1.2	33	35	3.1
18	8.1	17	.37	187	75	128	27	28	2.0
19	4.3	15	.17	688	525	1100	20	22	1.2
20	3.3	15	.13	175	197	93	15	20	.81
21	4.6	13	.16	148	151	69	11	19	.56
22	28	44	4.4	621	263	495	15	18	.73
23	30	21	1.7	423	195	223	29	31	2.4
24	20	12	.65	142	120	46	38	15	1.5
25	12	12	.39	78	77	16	30	11	.89
26	6.2	15	.25	53	46	6.6	21	11	.62
27	18	15	.73	34	30	2.8	14	11	.42
28	114	45	23	24	25	1.6	13	12	.42
29	381	477	469	19	25	1.3	12	12	.39
30	154	295	123	18	26	1.3	11	13	.39
31	81	133	29	36	58	8.1	---	---	---
TOTAL	1382.1	---	1336.83	4842	---	3606.2	1198	---	580.71
PERIOD	7470.8		5524.83						

04200500 BLACK RIVER AT ELYRIA, OH

LOCATION.--Lat 41°22'49", long 82°06'17", in T.6 N., R.17 W., Lorain County, Hydrologic Unit 04110001, on left bank in Cascade Park at Elyria, 0.8 mi (1.3 km) downstream from confluence of East and West Branches.

DRAINAGE AREA.--396 mi² (1,026 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to current year. Records for May 1903 to July 1906 (published as "near Elyria") published in WSP 97, 129, and 205, are unreliable and should not be used.

REVISED RECORDS.--WSP 1912: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 620.83 ft (189.229 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods and May 28 to Sept. 4, which are fair. Some regulation at low flow for industrial use. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--36 years, 324 ft³/s (9.176 m³/s), 11.11 in/yr (282 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,700 ft³/s (1,460 m³/s) July 6, 1969, gage height, 26.4 ft (8.05 m), (from flood mark), from rating curve extended above 13,000 ft³/s (368 m³/s) on basis of slope-area measurement of peak flow; no flow for part of Oct. 10, 1956 (result of temporary storage at dam upstream).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft³/s (90.6 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 26	0045	*7070	200	*12.54	3.822	Mar. 22	0345	4320	122	9.66	2.944
Feb. 23	0715	3650	103	8.84	2.694	Apr. 4	2000	4190	119	9.51	2.899
Mar. 9	1245	6080	172	11.58	3.530	Apr. 15	0830	3580	101	8.75	2.667

Minimum daily discharge, 17 ft³/s (0.48 m³/s) July 1, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	37	244	261	53	175	2310	78	40	17	83	74
2	46	41	189	224	50	153	847	73	56	23	473	78
3	40	46	147	192	47	140	509	64	164	23	1130	157
4	74	47	138	166	46	120	3350	60	325	20	765	91
5	105	50	140	143	44	140	3170	57	179	29	387	71
6	162	46	232	114	43	260	984	53	188	300	204	87
7	189	46	567	106	42	831	503	49	168	398	121	64
8	189	40	540	100	41	3650	374	47	538	145	78	47
9	108	69	382	94	40	5520	684	47	831	90	54	43
10	77	390	249	90	40	2330	769	43	320	64	75	38
11	65	540	183	393	40	1270	600	49	168	130	129	50
12	64	398	162	2320	40	709	449	62	112	109	188	52
13	65	222	168	1310	39	398	412	147	82	61	216	77
14	74	164	176	570	39	296	1280	243	61	43	129	580
15	87	151	159	327	39	228	3360	214	71	38	83	210
16	75	202	133	254	39	200	1980	140	182	45	57	137
17	62	162	105	254	39	415	1040	127	147	35	48	95
18	52	124	93	320	39	1380	573	313	91	28	212	70
19	45	105	106	300	40	1400	368	676	69	21	1150	56
20	34	94	91	228	42	777	274	482	56	17	455	54
21	31	85	83	173	63	2170	216	220	53	19	274	43
22	31	111	571	148	1340	3960	173	162	45	75	1810	43
23	24	259	1280	132	3430	1610	147	115	37	51	1460	73
24	22	1350	2600	93	2090	687	126	91	33	39	437	64
25	28	1670	5310	104	843	1150	111	74	29	34	212	51
26	23	2170	6370	111	452	971	98	64	26	26	137	48
27	20	2200	3240	134	325	525	90	57	23	112	102	36
28	19	985	971	74	200	376	87	51	20	342	78	33
29	23	517	547	68	190	888	83	46	19	716	64	34
30	23	346	379	61	---	1480	82	45	18	256	57	30
31	23	---	310	56	---	2400	---	46	---	148	74	---
TOTAL	1932	12667	25865	8922	9775	36619	25049	3995	4151	3454	10742	2586
MEAN	62.3	422	834	288	337	1181	835	129	138	111	347	86.2
MAX	189	2200	6370	2320	3430	5520	3360	676	831	716	1810	580
MIN	19	37	83	56	39	120	82	43	18	17	48	30
CFSM	.16	1.07	2.11	.73	.85	2.98	2.11	.33	.35	.28	.88	.22
IN.	.18	1.19	2.43	.84	.92	3.44	2.35	.38	.39	.32	1.01	.24

CAL YR 1979 TOTAL 157620 MEAN 432 MAX 9060 MIN 16 CFSM 1.09 IN 14.81
WTR YR 1980 TOTAL 145757 MEAN 398 MAX 6370 MIN 17 CFSM 1.01 IN 13.69

04200500 BLACK RIVER AT ELYRIA, OH--Continued

SEDIMENT ANALYSIS

PERIOD OF RECORD.--1970 to 1974, June to September, 1980.

REMARKS.--Sediment sampling is at gage. Samples at high water are taken from cable car.
PERIOD OF DAILY RECORD.--June to September 1980.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	2310			78			40	---	---
2	847			73			56	---	---
3	509			64			164	---	---
4	3350			60			325	---	---
5	3170			57			179	---	---
6	984			53			188	---	---
7	503			49			168	---	---
8	374			47			538	---	---
9	684			47			831	---	---
10	769			43			320	---	---
11	600			49			168	---	---
12	449			62			112	33	10
13	412			147			82	30	6.6
14	1280			243			61	27	4.4
15	3360			214			71	27	5.5
16	1980			140			182	47	23
17	1040			127			147	32	13
18	573			313			91	30	7.4
19	368			676			69	35	6.5
20	274			482			56	29	4.4
21	216			220			53	21	3.0
22	173			162			45	15	1.8
23	147			115			37	14	1.4
24	126			91			33	22	2.0
25	111			74			29	35	2.7
26	98			64			26	26	1.8
27	90			57			23	20	1.2
28	87			51			20	19	1.0
29	83			46			19	20	1.0
30	82			45			18	32	1.6
31	---			46			---	---	---
TOTAL	25049			3995			4151	---	98.3

04200500 BLACK RIVER AT ELYRIA, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	17	32	1.5	83	39	8.7	74	37	7.4
2	23	23	1.4	473	346	689	78	25	5.4
3	23	18	1.1	1130	485	1390	157	70	32
4	20	15	.81	765	267	578	91	39	9.6
5	29	15	1.2	387	133	144	71	36	6.2
6	300	160	311	204	93	52	87	75	18
7	398	329	359	121	80	26	64	47	8.1
8	145	193	75	78	60	13	47	27	3.4
9	90	145	35	54	50	7.3	43	14	1.6
10	64	108	19	75	63	15	38	9	.92
11	130	100	36	129	56	21	50	41	5.5
12	109	98	29	188	77	40	52	53	7.4
13	61	73	12	216	91	53	77	74	23
14	43	52	6.0	129	55	19	580	251	404
15	38	38	3.9	83	48	11	210	128	81
16	45	25	3.0	57	41	6.3	137	80	30
17	35	18	1.7	48	35	4.5	95	52	13
18	28	17	1.3	212	130	229	70	37	7.0
19	21	16	.91	1150	592	1870	56	28	4.2
20	17	15	.69	455	203	271	54	23	3.4
21	19	14	.72	274	155	128	43	20	2.3
22	75	44	14	1810	449	2350	43	18	2.3
23	51	23	3.2	1460	222	974	73	29	5.7
24	39	20	2.1	437	135	169	64	19	3.3
25	34	20	1.8	212	112	64	51	19	2.6
26	26	20	1.4	137	101	37	48	25	3.2
27	112	153	87	102	81	22	36	19	1.8
28	342	347	818	78	56	12	33	15	1.3
29	716	457	892	64	39	6.7	34	11	1.0
30	256	155	107	57	25	3.8	30	9	.73
31	148	65	26	74	32	7.6	---	---	---
TOTAL	3454	---	2852.73	10742	---	9221.9	2586	---	758.35
YEAR	145757		12931.28						

04200550 BLACK RIVER BELOW ELYRIA, OH

LOCATION.--Lat 41°24'42", long 82°05'45", in T.6 N., R.17 W., Lorain County, Hydrologic Unit 04110001, at Ford Road bridge on north edge of Elyria, 0.7 mi (1.1 km) downstream from Elyria sewage disposal plant, and 5.2 mi (8.4 km) downstream from discharge station at Elyria.

DRAINAGE AREA.--412 mi² (1,067 km²).

PERIOD OF RECORD.--January 1966 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January 1966 to current year.
pH: October 1976 to current year.
WATER TEMPERATURES: January 1966 to current year.
DISSOLVED OXYGEN: January 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of discharge for station at Elyria (station 04200500).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,900 micrcmhos Feb. 11, 1977; minimum, 117 micromhos Jan. 27, 1976.
pH: Maximum, 9.5 units Apr. 30, 1978; minimum, 6.0 units May 29, July 3, 1979.
WATER TEMPERATURES: Maximum, 33.0°C June 7, 1973; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.1 mg/L Jan. 12, 1980; minimum, 0.0 mg/L June 3, 5, 6, July 3, 4, 1966, July 31, Aug. 1, 2, 22, 23, 1974, Aug. 27, 1977, Aug. 3, Sept. 14, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,730 micromhos Feb. 20; minimum, 201 micromhos Mar. 9.
pH: Maximum 9.0 units Apr. 25; minimum, 6.9 units Aug. 2.
WATER TEMPERATURES: Maximum, 31.5°C July 20; minimum, 0.0°C on several days during winter periods.
DISSOLVED OXYGEN: Maximum, 15.1 mg/L Jan. 12; minimum 0.5 mg/L July 5.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	846	726	1260	819	621	555	567	525	1190	996	741	639
2	1020	807	981	765	690	612	615	558	1340	1060	699	645
3	762	858	1030	864	744	657	717	600	1120	1010	756	663
4	1050	726	921	846	777	690	750	648	1250	963	903	753
5	798	711	1040	822	786	684	837	717	1380	1170	1020	813
6	762	720	1240	939	816	711	801	735	1370	1150	786	516
7	717	639	1130	984	714	639	783	696	1420	1160	507	450
8	765	636	1220	978	636	603	843	744	1330	1170	468	213
9	819	729	1330	759	597	567	834	777	1370	1160	210	201
10	---	---	753	705	648	558	909	786	1220	1100	321	210
11	---	---	723	582	705	609	1130	603	1200	1040	375	324
12	---	---	738	588	774	645	573	330	1450	1160	450	369
13	---	---	789	717	750	672	339	306	1540	1370	513	441
14	---	---	768	723	759	681	426	339	1540	1260	546	501
15	---	---	819	693	744	699	501	423	1480	1220	573	519
16	---	---	708	678	780	687	558	486	1700	1470	573	519
17	1040	885	720	657	987	705	606	537	1580	1410	651	555
18	1110	894	681	630	1110	882	591	555	1440	1310	555	471
19	1120	909	792	636	1010	867	606	564	1620	1270	489	447
20	1130	903	876	720	990	864	612	573	1730	1540	501	441
21	942	843	930	756	1050	885	672	588	1550	1240	543	324
22	963	819	900	651	1060	603	729	654	1190	360	333	315
23	1240	933	684	612	582	441	831	669	345	270	369	318
24	1150	963	594	417	474	330	972	771	321	270	459	369
25	1130	942	507	429	327	240	975	840	414	321	441	414
26	1380	999	462	387	264	225	1010	879	588	405	468	417
27	1250	1030	411	393	318	264	918	834	591	540	480	438
28	1170	999	462	408	405	321	945	804	648	558	570	471
29	1170	1010	528	459	453	405	1010	909	708	600	534	417
30	1270	999	576	516	492	453	1060	957	---	---	447	414
31	1320	1020	---	---	546	492	1090	954	---	---	444	312
MONTH	1320	636	1330	387	1110	225	1130	306	1730	270	1020	201

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	342	315	---	---	945	765	1030	831	624	525	603	561
2	417	345	---	---	876	636	936	825	627	363	618	570
3	486	411	---	---	897	672	1030	861	399	300	621	573
4	429	246	---	---	711	669	891	801	396	300	786	543
5	297	258	---	---	699	654	822	732	450	399	789	600
6	369	383	---	---	609	507	783	672	507	441	615	495
7	450	372	---	---	705	546	738	435	573	498	540	456
8	573	450	---	---	597	528	489	453	660	564	774	534
9	504	456	---	---	531	423	570	465	696	618	957	699
10	459	441	---	---	552	471	543	477	633	495	762	711
11	486	432	---	---	636	546	567	486	558	444	972	864
12	501	450	---	---	696	609	513	483	600	507	996	861
13	492	471	---	---	765	672	549	492	567	510	942	828
14	510	402	---	---	798	675	618	543	615	540	696	435
15	---	---	---	---	768	567	654	594	---	---	519	408
16	---	---	---	---	624	558	681	636	---	---	615	480
17	---	---	---	---	678	627	723	654	---	---	699	600
18	447	435	---	---	690	645	762	708	---	---	762	615
19	480	444	---	---	792	624	732	708	354	315	876	675
20	498	462	---	---	759	585	708	669	396	312	837	711
21	567	498	---	---	795	696	765	690	453	396	732	660
22	621	558	---	---	702	645	747	417	447	258	924	642
23	657	600	714	687	810	678	744	612	342	267	774	585
24	702	615	702	642	846	720	822	639	402	345	822	624
25	759	675	687	624	912	801	852	705	477	405	915	708
26	768	702	744	642	975	783	765	705	540	480	924	699
27	747	651	822	563	810	732	717	486	588	528	981	771
28	756	663	966	771	1020	738	579	396	660	564	858	753
29	---	---	993	819	846	771	366	300	720	603	921	696
30	---	---	1060	834	903	780	408	324	702	597	1070	849
31	---	---	1010	789	---	---	534	384	663	564	---	---
MONTH	768	246	1060	624	1020	423	1030	300	720	258	1070	408
YEAR	1730	201										

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.3	7.6			8.0	7.9	8.1	8.0	8.1	8.0	8.0	7.8
2	8.1	7.9			7.9	7.9	8.1	8.0	8.1	7.8	8.0	7.9
3	8.1	7.8			8.1	7.8	8.2	8.0	8.1	7.9	8.1	7.9
4	7.9	7.7			7.9	7.8	8.1	8.1	8.0	7.9	8.1	7.9
5	8.1	7.9			8.1	7.9	8.1	8.0	8.0	7.8	8.2	7.9
6	8.3	8.1			8.1	8.1	8.1	8.1	8.1	7.8	8.1	7.9
7	8.3	8.1			8.2	8.0	8.4	8.1	8.0	7.9	8.2	7.8
8	8.4	8.2			7.9	7.9	8.1	8.0	8.1	7.9	7.8	7.5
9	8.2	8.1			8.0	7.9	8.3	8.1	8.1	7.9	7.6	7.5
10	8.1	8.0			8.2	8.0	8.2	8.0	8.0	7.9	7.8	7.5
11	8.1	7.9			8.1	7.9	8.2	8.0	8.1	7.9	7.8	7.7
12	8.0	7.8			8.0	7.9	8.1	7.8	8.1	7.8	7.9	7.8
13	8.0	7.5			8.1	8.0	7.8	7.8	8.1	7.8	7.9	7.9
14	7.9	7.8			8.1	8.0	7.9	7.8	8.1	7.8	8.0	7.8
15	8.0	7.8			8.2	8.1	8.0	7.9	8.0	7.9	8.0	7.9
16	8.0	7.5			8.2	8.1	8.1	7.9	8.1	7.9	8.1	8.0
17	7.9	7.6			8.2	8.1	8.2	8.0	8.0	7.8	8.1	8.0
18	7.9	7.3			8.2	7.9	8.2	8.1	8.1	7.8	8.1	7.9
19	8.3	7.6			8.2	8.1	8.2	8.1	8.0	7.8	8.0	7.9
20	8.4	8.0			8.3	8.0	8.2	8.2	8.0	7.9	8.0	7.9
21	8.4	8.1			8.2	8.0	8.4	8.1	8.0	7.8	8.0	7.8
22	8.3	7.9			8.1	7.8	8.2	8.1	8.0	7.6	8.0	7.8
23	8.3	8.1			7.9	7.8	8.2	8.1	7.9	7.6	7.9	7.8
24	8.2	8.1			7.9	7.6	8.1	7.9	7.6	7.6	8.1	7.9
25	8.2	8.1			7.7	7.4	8.2	8.0	7.8	7.7	8.0	7.9
26	8.2	8.1			7.6	7.5	8.2	8.0	7.8	7.8	8.1	8.0
27	8.1	8.0			7.7	7.6	8.1	8.0	7.9	7.8	8.0	7.8
28	8.1	8.0			7.9	7.7	8.1	8.0	8.2	7.8	8.1	7.9
29	8.2	7.9			8.0	7.9	8.1	7.9	8.0	7.8	8.1	7.9
30	8.2	8.0			8.0	7.9	8.2	8.0	---	---	8.1	8.0
31	8.1	8.0			8.1	8.0	8.1	8.0	---	---	8.0	7.8
MONTH	8.4	7.3			8.3	7.4	8.4	7.8	8.2	7.6	8.2	7.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.9	---	---	8.0	7.6	7.7	7.4	7.5	7.2	---	---
2	8.0	7.9	---	---	7.8	7.3	8.1	7.3	7.4	6.9	---	---
3	8.1	7.8	---	---	8.1	7.4	7.8	7.5	7.6	7.2	---	---
4	7.8	7.7	---	---	---	---	7.6	7.3	7.6	7.3	7.8	7.1
5	7.9	7.8	---	---	---	---	7.5	7.1	7.6	7.4	7.7	7.1
6	8.0	7.9	---	---	8.1	7.9	7.6	7.2	7.6	7.3	7.7	7.1
7	8.1	7.9	---	---	8.0	7.9	7.6	7.2	7.6	7.5	7.6	7.3
8	8.1	7.8	---	---	8.5	8.0	7.6	7.3	7.6	7.3	7.8	7.0
9	8.1	7.8	---	---	8.4	8.3	7.6	7.2	7.7	7.3	7.5	7.2
10	8.2	8.0	---	---	8.4	8.3	7.5	7.2	7.7	7.3	8.0	7.4
11	8.2	8.1	---	---	8.4	8.3	7.6	7.0	7.6	7.2	8.0	7.6
12	8.1	7.9	---	---	8.3	8.2	7.5	7.3	7.8	7.3	8.0	7.5
13	8.2	8.1	---	---	8.2	8.1	7.6	7.4	7.9	7.7	7.9	7.2
14	8.2	7.9	---	---	8.2	8.0	7.8	7.4	7.8	7.7	7.7	7.3
15	---	---	---	---	8.0	7.7	7.8	7.6	---	---	7.9	7.5
16	---	---	---	---	8.3	8.1	8.1	7.4	---	---	7.9	7.7
17	---	---	---	---	8.4	8.2	7.8	7.5	---	---	8.2	7.7
18	8.2	8.0	---	---	8.2	8.1	7.7	7.4	---	---	7.9	7.7
19	8.2	7.9	---	---	8.1	7.9	7.7	7.2	7.5	7.4	7.9	7.4
20	8.3	8.1	---	---	8.3	7.8	7.6	7.3	7.4	7.1	7.9	7.4
21	8.3	8.1	---	---	8.3	8.0	7.7	7.3	7.5	7.2	7.9	7.3
22	8.5	8.1	---	---	8.3	8.0	7.6	7.0	7.6	7.1	7.8	7.3
23	8.7	8.1	7.8	7.6	8.4	8.0	7.5	7.2	7.7	7.3	8.0	7.4
24	8.8	8.2	8.1	7.7	8.3	7.7	7.8	7.3	7.7	7.1	8.0	7.7
25	9.0	8.1	8.3	7.8	8.0	7.5	7.6	7.3	7.8	7.2	8.0	7.7
26	8.9	8.3	8.5	8.0	7.9	7.5	7.7	7.3	7.7	7.2	8.0	7.7
27	8.9	8.3	8.6	8.1	7.7	7.4	7.7	7.0	7.7	7.2	7.9	7.7
28	8.9	8.1	8.6	8.0	7.8	7.2	7.8	7.2	7.6	7.1	7.9	7.6
29	---	---	8.5	7.9	7.5	7.3	8.4	7.3	7.5	7.2	8.0	7.3
30	---	---	8.3	7.9	7.8	7.4	7.4	7.1	7.4	7.2	7.8	7.4
31	---	---	8.1	7.6	---	---	7.4	7.2	8.3	7.1	---	---
MONTH	9.0	7.7	8.6	7.6	8.5	7.2	8.4	7.0	8.3	6.9	8.2	7.0
YEAR	9.0	6.9										

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	18.0	14.5	11.0	4.5	3.0	3.5	3.0	2.5	1.0	1.5	.0
2	20.0	19.0	12.0	9.0	4.0	1.5	3.5	3.0	3.0	.5	1.5	.0
3	19.5	18.5	11.0	8.5	2.5	.0	3.5	2.5	3.0	.5	2.0	.0
4	18.5	16.5	10.5	8.0	3.5	.5	2.5	2.0	3.0	1.0	3.0	1.0
5	16.5	14.5	10.0	8.5	4.0	1.0	2.5	1.5	3.5	.5	2.5	1.0
6	14.5	13.5	10.5	8.0	4.5	3.0	2.5	.5	3.5	1.5	1.5	.5
7	13.5	11.5	10.0	7.5	3.5	2.5	2.0	1.0	3.5	1.5	1.5	.5
8	12.5	11.0	8.5	6.5	3.5	2.5	2.0	.5	3.5	1.5	1.0	.5
9	12.5	12.0	10.5	7.0	2.5	2.0	2.0	1.0	4.0	1.5	1.5	.5
10	12.5	11.0	8.5	6.5	3.0	2.0	2.5	.5	3.0	1.5	3.0	1.5
11	11.5	9.5	6.5	5.0	5.0	2.5	4.0	1.0	3.5	1.5	2.5	1.5
12	12.5	10.5	6.0	5.0	6.5	5.0	.5	.0	4.0	1.0	2.5	.5
13	11.0	9.0	6.5	5.5	6.0	5.0	.5	.5	4.5	1.0	2.0	1.0
14	11.0	8.5	6.5	5.5	5.0	3.5	1.5	.5	4.5	2.0	3.0	1.0
15	11.0	8.0	6.5	5.0	3.5	2.0	1.5	1.5	4.0	2.0	5.0	1.5
16	11.5	9.5	6.0	5.0	3.5	2.0	2.0	1.0	4.0	1.5	6.5	2.5
17	13.5	11.0	7.5	4.5	2.0	.5	4.0	2.0	4.0	1.5	7.5	5.5
18	15.5	11.5	8.0	5.5	2.0	.5	4.0	3.5	4.5	1.0	6.5	6.0
19	16.0	12.5	9.0	8.0	2.5	1.0	4.0	3.5	5.0	2.0	6.5	5.0
20	18.0	15.0	10.5	7.5	3.0	1.0	3.5	2.5	4.0	2.0	8.0	5.5
21	20.5	16.0	10.5	7.5	3.5	1.0	3.0	1.5	3.5	2.0	9.0	5.5
22	21.0	14.0	11.5	10.0	4.0	2.0	3.0	2.0	2.5	.5	5.5	4.0
23	19.0	14.0	11.5	11.0	4.5	2.0	2.5	.5	.5	.5	4.5	3.5
24	13.5	11.5	11.0	9.0	8.5	4.5	1.5	.0	.5	.5	6.0	4.5
25	12.0	10.5	9.0	8.0	9.0	6.0	1.5	.5	1.0	.0	5.5	5.0
26	11.0	9.5	9.5	8.5	6.0	4.0	1.5	.0	1.0	.0	5.5	4.5
27	12.0	8.0	9.5	8.5	4.0	3.5	1.5	.0	1.0	.0	7.0	4.0
28	13.0	10.5	9.0	7.0	4.0	3.5	2.0	.5	2.0	.0	7.0	6.0
29	14.0	10.5	7.0	5.5	3.5	2.5	1.5	.5	1.5	.0	7.5	6.5
30	13.0	8.5	5.5	4.0	3.5	3.0	2.5	.5	---	---	7.0	6.5
31	15.5	10.5	---	---	3.5	3.0	2.5	1.0	---	---	8.5	7.0
MONTH	21.0	8.0	14.5	4.0	9.0	.0	4.0	.0	5.0	.0	9.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.0	8.0	---	---	23.0	20.0	25.0	21.0	29.0	25.5	28.0	24.5
2	10.0	8.5	---	---	23.5	19.5	26.5	23.0	27.0	24.5	27.0	25.0
3	10.0	8.5	---	---	22.5	21.0	27.0	21.5	25.0	24.0	26.0	23.5
4	9.5	8.0	---	---	22.0	19.0	24.5	22.0	25.5	23.5	24.5	22.0
5	9.0	7.5	---	---	22.5	18.5	27.0	23.0	27.5	25.0	26.0	21.5
6	10.5	8.0	---	---	22.5	18.0	27.5	22.0	29.0	25.5	25.5	21.5
7	10.5	9.0	---	---	22.0	20.0	23.0	21.5	28.0	24.0	23.0	20.0
8	12.5	10.0	---	---	21.0	18.5	25.5	22.0	29.0	25.0	24.5	19.0
9	12.0	11.0	---	---	18.5	17.0	23.0	21.5	28.0	25.5	23.0	20.5
10	11.0	10.0	---	---	18.0	15.5	27.5	21.5	26.0	24.0	23.5	19.0
11	11.0	9.5	---	---	19.5	15.5	27.5	23.0	25.5	23.5	23.0	18.5
12	11.0	10.0	---	---	21.5	15.0	24.5	23.5	25.0	23.0	23.0	19.0
13	11.0	9.0	---	---	23.0	16.5	27.0	21.5	25.0	22.0	24.5	21.0
14	9.5	9.0	---	---	22.5	18.5	28.0	21.5	24.5	22.5	22.5	21.5
15	---	---	---	---	20.5	18.5	30.0	24.5	---	---	22.0	20.5
16	---	---	---	---	20.0	17.5	30.5	26.5	---	---	21.5	20.0
17	---	---	---	---	21.5	16.0	30.5	26.0	---	---	20.5	18.0
18	12.0	10.0	---	---	23.0	17.5	29.0	25.5	---	---	20.0	16.5
19	15.0	10.5	---	---	24.5	19.0	30.0	25.5	21.5	21.0	21.5	16.0
20	16.5	12.5	---	---	23.5	18.0	31.5	26.5	23.0	21.0	22.5	18.0
21	18.5	13.5	---	---	24.5	19.0	29.5	27.0	25.0	22.0	24.5	20.0
22	20.0	14.0	---	---	25.5	19.0	28.0	25.0	23.5	22.5	26.0	22.0
23	20.0	16.0	20.5	19.5	26.0	20.5	28.0	24.5	23.5	22.0	22.5	19.5
24	17.5	14.0	21.0	18.5	25.0	22.5	29.5	23.5	23.5	21.5	20.0	17.0
25	19.0	14.5	23.0	18.5	27.5	21.5	29.5	23.5	24.5	21.5	20.0	16.5
26	19.0	13.5	22.0	17.0	28.5	22.5	29.5	25.0	25.5	22.0	18.5	16.5
27	17.5	14.0	21.5	16.0	28.0	24.5	27.0	24.5	26.5	23.0	18.5	14.5
28	17.5	13.0	23.5	17.5	27.0	23.5	26.5	24.0	27.5	23.5	19.0	14.5
29	---	---	23.5	19.0	27.5	24.0	25.5	23.5	27.5	24.0	19.5	14.5
30	---	---	24.5	20.5	26.5	22.0	27.0	23.5	27.0	25.0	20.5	15.0
31	---	---	25.5	21.0	---	---	27.0	24.0	27.0	24.0	---	---
MONTH	20.0	7.5	25.5	16.0	28.5	15.0	31.5	21.0	29.0	21.0	28.0	14.5
YEAR	31.5	.0										

04200550 BLACK RIVER BELOW ELYRIA, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.8	5.3	7.5	4.5	12.6	12.3	13.4	13.0	---	---	12.7	12.4
2	7.0	5.0	9.3	7.3	12.9	12.5	13.5	13.2	---	---	12.6	12.2
3	6.5	4.8	10.0	7.9	13.1	12.8	13.5	13.1	---	---	12.5	12.1
4	6.4	4.9	11.6	8.6	13.0	12.6	13.4	13.2	---	---	12.0	11.7
5	7.4	5.5	11.8	9.1	12.7	12.1	13.3	13.1	---	---	12.4	11.2
6	7.8	6.2	10.7	6.7	12.3	11.9	13.5	13.2	---	---	13.0	12.6
7	8.1	7.1	10.4	7.5	12.8	12.3	13.3	13.0	---	---	12.9	12.5
8	8.7	7.6	10.2	8.8	13.0	11.8	13.2	12.9	---	---	14.0	12.8
9	7.8	7.4	9.2	7.5	13.1	12.8	13.3	13.0	---	---	14.2	13.0
10	7.7	7.2	11.7	9.6	12.9	12.4	13.3	12.8	---	---	13.8	12.7
11	7.8	7.1	12.5	11.7	12.5	11.7	13.9	11.1	---	---	13.1	12.8
12	7.5	6.9	12.7	11.7	11.6	10.7	15.1	14.2	11.7	11.1	14.6	12.9
13	7.8	6.9	12.0	11.4	11.5	11.0	15.0	14.1	11.4	10.7	14.5	14.1
14	8.4	7.4	11.8	11.1	12.2	11.6	14.1	13.5	11.1	10.6	14.5	14.0
15	8.7	7.7	11.6	10.3	12.5	12.1	14.0	13.5	11.0	10.2	14.5	13.9
16	8.0	7.4	11.2	10.8	12.3	12.0	13.8	13.2	10.9	10.3	14.1	13.2
17	8.1	7.0	11.9	10.8	12.7	12.2	13.3	12.7	11.2	10.6	13.3	12.6
18	7.8	6.5	11.6	10.9	12.9	11.6	12.9	12.6	11.3	10.6	13.8	13.2
19	9.1	6.6	11.2	9.8	12.8	12.4	13.2	12.7	11.2	10.3	14.2	13.4
20	8.7	6.4	10.5	9.6	12.8	12.4	13.4	13.1	10.9	10.1	13.5	12.6
21	8.2	6.0	10.6	9.2	12.6	11.7	13.4	12.8	10.8	9.8	14.3	12.1
22	8.1	5.3	9.9	8.5	13.4	9.7	13.0	12.4	13.3	10.4	14.9	14.2
23	6.8	4.4	10.4	9.3	13.5	12.9	12.9	12.5	13.6	13.2	14.6	13.4
24	7.1	6.0	11.6	9.9	12.9	12.2	12.9	12.1	13.6	13.1	13.6	12.7
25	7.5	6.4	11.8	11.4	13.5	12.4	12.6	12.0	13.1	12.4	13.7	13.1
26	7.7	6.4	11.8	11.0	14.3	13.7	13.3	12.4	12.7	12.4	13.9	13.0
27	8.3	6.8	11.9	11.4	14.3	13.5	13.3	13.0	12.5	12.2	12.6	12.0
28	7.9	6.4	11.9	11.2	13.8	13.1	13.1	12.7	12.5	12.1	12.2	10.8
29	8.4	6.1	12.2	11.9	13.9	13.4	12.9	12.4	12.7	12.3	11.8	10.6
30	8.4	6.4	12.3	12.1	13.4	13.1	12.8	12.3	---	---	12.2	11.3
31	7.8	6.1	---	---	13.4	13.2	12.4	11.7	---	---	11.7	10.8
MONTH	9.1	4.4	12.7	4.5	14.3	9.7	15.1	11.1	13.6	9.8	14.9	10.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.4	---	---	5.7	2.5	7.1	4.5	5.7	4.9	9.6	6.3
2	10.7	9.6	---	---	5.8	3.4	8.5	2.8	7.5	4.0	8.9	5.4
3	11.6	9.4	---	---	6.4	3.5	7.6	4.0	7.7	7.4	8.3	6.2
4	12.8	10.7	---	---	9.0	6.5	5.2	3.6	7.8	7.3	7.7	1.5
5	12.8	11.8	---	---	9.0	5.4	7.2	.5	7.5	6.3	8.1	4.4
6	12.1	10.7	---	---	7.8	7.2	6.3	3.2	6.6	6.0	6.9	4.2
7	11.8	10.2	---	---	7.7	7.0	7.5	6.4	6.5	5.1	6.7	5.3
8	10.7	9.7	---	---	8.8	7.4	7.3	6.2	5.3	3.6	7.3	5.2
9	10.9	10.4	---	---	8.9	8.5	6.4	4.9	5.9	2.7	6.8	4.5
10	11.5	10.9	---	---	9.0	8.6	6.2	5.1	6.4	3.1	7.3	4.1
11	11.7	11.3	---	---	8.8	8.1	6.5	5.2	6.3	4.0	7.3	4.2
12	11.3	11.0	---	---	8.5	7.7	6.1	5.7	6.7	4.7	6.6	3.4
13	11.5	11.0	---	---	7.8	6.9	6.3	4.6	7.8	6.2	7.2	1.3
14	11.4	10.8	---	---	7.3	5.7	7.1	4.3	6.5	6.2	5.7	3.8
15	---	---	---	---	8.1	3.0	7.2	5.3	---	---	6.9	4.1
16	---	---	---	---	8.1	5.8	8.0	4.4	---	---	7.1	6.6
17	---	---	---	---	8.3	7.2	7.0	4.6	---	---	7.6	6.7
18	11.5	10.5	---	---	7.4	6.3	6.6	4.1	---	---	7.3	6.0
19	10.5	10.1	---	---	6.8	5.3	6.6	2.9	8.4	6.6	7.1	6.1
20	10.1	9.7	---	---	7.1	5.7	4.9	2.9	8.4	7.5	6.9	5.8
21	9.9	9.5	---	---	7.3	5.5	5.6	1.6	7.6	6.2	6.8	5.4
22	10.0	9.2	---	---	7.4	5.7	5.6	2.9	8.5	7.0	6.6	1.1
23	10.6	8.2	7.6	6.5	7.9	5.3	5.8	4.1	8.6	8.2	7.0	3.3
24	11.2	8.3	7.5	6.2	8.7	4.7	5.8	4.1	8.2	7.7	7.5	5.7
25	12.2	8.3	7.8	6.0	8.3	4.5	6.1	3.7	7.9	7.3	7.6	5.7
26	12.5	8.2	8.4	6.0	8.5	4.1	7.0	3.6	7.6	6.9	7.3	5.7
27	12.0	8.1	9.0	6.1	7.5	3.8	6.9	3.4	7.1	6.4	7.6	5.7
28	12.2	8.3	9.4	5.2	8.2	2.3	7.1	5.4	6.4	5.8	7.8	6.0
29	---	---	6.8	5.5	5.8	3.2	7.9	7.0	6.0	5.0	7.9	5.8
30	---	---	7.7	3.5	7.6	2.6	7.2	6.2	5.8	4.6	7.2	4.7
31	---	---	6.7	3.6	---	---	6.6	5.4	8.7	4.3	---	---
MONTH	12.8	8.1	9.4	3.5	9.0	2.3	8.5	.5	8.7	2.7	9.6	1.1
YEAR	15.1	.5										

04200550 BLACK RIVER BELOW ELYRIA, OH --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
NOV										
28...	1530	912	472	7.5	40	84	25	10	199	.27
28...	1730	851	466	7.6	35	84	25	9.6	223	.30
28...	1930	792	472	7.7	37	85	25	9.9	217	.30
28...	2130	742	481	7.6	32	84	26	9.6	250	.35
28...	2330	690	483	7.8	34	86	25	9.6	241	.33
29...	0330	634	484	7.8	33	87	25	9.7	251	.34
29...	0530	600	486	7.7	40	89	25	9.8	267	.36
29...	0730	576	491	7.7	45	90	25	9.9	283	.38
29...	0930	547	510	7.8	36	95	26	10	270	.38
29...	1130	522	527	7.6	34	97	29	10	281	.38
29...	1330	503	537	7.7	36	99	30	10	325	.44
30...	0900	388	564	7.4	28	103	26	10	347	.47
MAR										
21...	1230	1170	380	7.4	192	--	--	2.6	270	.38
21...	1630	2560	363	7.4	194	--	--	3.4	275	.37
21...	2030	3490	357	7.4	185	--	--	3.6	278	.38
22...	0030	4090	359	7.4	180	--	--	3.7	261	.35
22...	0430	4280	390	7.6	183	--	--	3.7	285	.39
22...	0830	4320	375	7.4	170	--	--	4.0	286	.39
22...	1230	4260	368	7.4	168	--	--	3.9	268	.36
22...	1630	4090	381	7.6	156	--	--	4.0	283	.38
22...	2030	3720	372	7.5	171	--	--	4.0	246	.33
23...	0030	3270	370	7.5	132	--	--	4.2	237	.32
23...	0430	2620	386	7.5	119	--	--	4.2	228	.31
23...	0830	2330	390	7.4	115	--	--	4.4	237	.32
27...	1400	554	515	7.2	84	--	--	4.5	318	.43
APR										
04...	1430	3050	314	7.7	--	--	--	4.0	--	--
04...	1830	4130	284	7.6	--	--	--	3.9	--	--
04...	2230	4190	291	7.7	--	--	--	4.0	--	--
05...	0230	4190	240	7.6	--	--	--	4.0	--	--
05...	0630	4120	291	7.5	--	--	--	4.0	--	--
05...	1030	3630	301	7.6	--	--	--	4.2	--	--
05...	1430	3400	332	7.8	--	--	--	4.2	--	--
05...	1830	2960	258	7.6	--	--	--	4.4	--	--
05...	2230	2300	308	7.7	--	--	--	4.5	--	--
06...	0230	1810	380	7.7	--	--	--	4.6	--	--
06...	0630	1450	330	7.6	--	--	--	4.6	--	--
10...	0900	831	473	7.3	--	--	--	4.9	--	--
14...	1900	1590	428	7.7	--	--	--	3.9	202	.27
14...	2100	2030	373	7.7	--	--	--	3.7	211	.29

04200550 BLACK RIVER BELOW ELYRIA, OH --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV										
28...	400	135	1.8	.00	1.6	1.6	5.4	24	.326	7.6
28...	512	82	3.6	.01	1.2	1.2	4.9	22	.325	8.6
28...	484	75	1.9	.01	1.5	1.5	3.5	15	.335	10
28...	519	73	4.3	.01	1.5	1.5	5.9	26	.367	11
28...	456	60	3.7	.02	1.6	1.6	5.4	24	.332	10
29...	438	63	3.7	.02	1.5	1.6	5.2	23	.301	10
29...	405	61	3.6	.03	1.1	1.1	4.8	21	.280	10
29...	440	56	3.5	.02	1.3	1.3	4.9	22	.290	10
29...	400	60	3.8	.00	1.7	1.8	5.5	24	.305	9.6
29...	390	56	4.0	.00	1.5	1.5	5.6	25	.307	9.3
29...	441	52	4.6	.01	1.9	1.9	6.6	29	.300	9.8
30...	365	36	3.3	.05	1.9	2.5	5.9	26	.291	3.6
MAR										
21...	870	536	2.4	.00	2.5	2.5	5.0	22	.706	11
21...	1900	495	2.6	.00	2.5	2.6	5.2	23	.681	11
21...	2620	566	2.7	.00	2.4	2.4	5.1	23	.672	11
22...	2900	536	2.7	.00	2.3	2.3	5.1	23	.653	11
22...	3290	514	2.8	.00	2.4	2.4	5.2	23	.637	10
22...	3360	482	2.6	.00	2.2	2.1	4.8	21	.610	10
22...	2850	435	2.6	.01	2.1	2.0	4.7	21	.568	10
22...	2000	355	2.6	.00	2.0	2.0	4.6	20	.501	10
22...	2470	299	2.6	.00	2.3	2.3	5.0	22	.425	12
23...	2090	254	2.6	.00	1.7	1.6	4.3	19	.366	10
23...	1760	220	2.7	.00	1.8	1.8	4.6	20	.365	9.6
23...	1490	201	2.8	.00	1.6	1.6	4.5	20	.369	9.7
27...	476	55	3.2	.00	2.3	2.3	5.6	25	.297	8.8
APR										
04...	--	401	1.9	.01	4.1	4.0	6.0	27	.966	--
04...	--	615	1.8	.01	4.6	4.6	6.2	27	.969	--
04...	--	642	1.9	.01	4.0	4.8	6.0	27	.880	--
05...	--	705	1.9	.02	4.0	3.9	5.9	26	.856	--
05...	--	705	1.9	.01	3.5	3.5	5.5	24	.705	--
05...	--	663	2.0	.02	3.3	3.2	5.3	23	.704	--
05...	--	594	1.9	.03	3.2	3.2	5.2	23	.650	--
05...	--	494	2.8	.02	2.8	2.8	4.9	22	.570	--
05...	--	407	2.8	.02	2.5	2.5	4.6	20	.565	--
08...	--	331	2.0	.01	2.1	2.0	4.1	18	.500	--
08...	--	280	2.5	.05	2.1	2.1	4.7	21	.461	--
10...	--	176	1.5	.01	2.6	2.6	4.8	18	.421	--
14...	867	437	1.8	.07	2.6	2.6	4.3	19	.667	--
14...	1100	471	1.5	.03	2.0	2.0	4.3	19	.750	--

04200550 BLACK RIVER BELOW ELYRIA, OH --Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
APR								
14...	2300	2580	282	7.6	3.3	189	.26	1320
15...	0100	2980	343	7.7	3.4	154	.21	1240
15...	0300	3220	329	7.7	3.4	157	.21	1370
15...	0500	3380	324	7.7	3.4	162	.22	1480
15...	0700	3490	335	8.3	3.4	166	.23	1560
15...	0900	3540	325	7.9	3.3	208	.28	1990
15...	1100	3580	326	7.8	3.4	282	.38	2730
15...	1300	3580	323	7.8	3.5	--	--	--
15...	1500	3540	331	7.7	3.4	--	--	--
15...	1700	3500	337	7.8	3.4	--	--	--
16...	1400	2070	339	7.3	3.7	--	--	--
JUL								
28...	2130	184	536	7.9	5.6	--	--	--
28...	2330	560	458	7.9	4.9	--	--	--
29...	0130	1140	401	7.9	5.6	--	--	--
29...	0330	1560	356	7.9	4.4	--	--	--
29...	0530	1450	385	7.8	4.9	--	--	--
29...	0730	1280	382	7.7	4.8	--	--	--
29...	0930	1090	351	7.7	4.5	--	--	--
29...	1130	908	331	7.8	4.5	--	--	--
29...	1330	863	334	7.8	4.7	--	--	--
30...	0800	374	--	--	--	--	--	--

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR								
14...	488	1.4	.02	2.8	2.8	4.2	19	.715
15...	505	1.4	.01	2.4	2.4	3.9	17	.683
15...	514	1.4	.05	2.2	2.3	3.7	16	.696
15...	520	1.4	.06	2.6	2.6	4.1	18	.678
15...	488	1.4	.01	2.5	2.5	4.0	18	.643
15...	497	1.4	.04	2.8	2.8	4.2	19	.645
15...	506	1.4	.02	2.6	2.6	4.2	18	.625
15...	486	1.5	.01	2.4	2.3	3.9	17	.600
15...	446	1.4	.07	2.4	2.4	3.9	17	.602
15...	438	1.3	.07	2.2	2.3	3.7	16	.556
16...	217	1.6	.00	2.0	1.9	3.6	16	.331
JUL								
28...	386	2.7	.02	3.1	3.1	5.9	26	1.093
28...	757	2.7	.03	3.6	3.6	6.4	28	1.202
29...	602	3.0	.05	3.0	3.0	6.1	27	.940
29...	598	2.5	.03	2.5	2.5	5.0	22	.911
29...	430	2.7	.04	1.7	1.7	4.5	20	.750
29...	361	2.6	.10	1.8	1.9	4.5	20	.684
29...	447	2.7	.09	2.2	2.3	5.1	23	.759
29...	458	3.1	.04	.83	.87	4.0	18	.746
29...	466	3.3	.04	2.9	2.9	6.3	28	.697
30...	226	4.3	.04	--	--	--	--	.590

04201300 WEST BRANCH ROCKY RIVER NEAR VALLEY CITY, OH

LOCATION.--Lat 41°14'16", long 81°55'28", in R.15 W., T.4 N., Medina County, Hydrologic Unit 04110001, on right bank at downstream side of bridge, on State Route 303, 0.91 mi (1.46 km) downstream from confluence of Cossett Creek and West Branch Rocky River, and 2.1 mi (3.4 km) downstream from confluence of Mallet Creek and West Branch Rocky River.

DRAINAGE AREA.--119 mi² (308 km²).

PERIOD OF RECORD.--March to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 790 ft (241 m) from topographic map.

REMARKS.--Records good except those for winter periods, which are fair. Some interbasin transfer of water from Lake Erie for municipal water supply by Cleveland Metro Water District. Diversion above station from North Branch Rocky River for municipal supply of Medina.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,920 ft^3/s (281 m^3/s) Aug. 21, 1980, gage height, 8.30 ft (2.530 m); minimum, 3.60 ft^3/s (0.102 m^3/s) Sept. 30, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft^3/s (56.6 m^3/s for period March through September and maximums (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Mar. 8	0830	7880	223	7.66	2.335
Mar. 21	1630	5440	154	6.74	2.054
Mar. 31	0830	2780	78.7	5.37	1.637
Apr. 4	0730	4440	126	6.29	1.917
Apr. 14	1900	6720	190	7.25	2.210
Aug. 21	2200	*9920	281	*8.30	2.530

Minimum daily discharge, 3.6 ft^3/s (0.102 m^3/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						100	214	25	55	9.6	9.1	4.7
2						90	142	22	255	8.3	58	7.5
3						80	119	21	213	7.5	288	11
4						70	1790	20	95	7.2	111	7.9
5						200	256	22	47	13	40	19
6						350	152	21	149	31	41	9.0
7						170	122	20	183	9.7	22	5.6
8						4280	103	19	331	6.0	12	6.3
9						393	230	19	107	5.7	7.7	8.4
10						251	160	17	78	24	6.1	18
11						216	127	35	41	12	17	12
12						143	106	107	25	27	97	8.2
13						118	120	142	16	18	30	7.8
14						103	2160	116	12	8.7	14	95
15						82	1270	70	25	6.2	11	52
16						88	410	44	158	5.1	9.2	24
17						185	199	45	58	4.9	4.4	22
18						294	140	326	27	5.2	78	35
19						199	107	192	18	4.2	41	16
20						156	84	111	29	4.7	19	9.4
21						2350	69	71	19	3.8	1520	6.4
22						534	63	52	11	44	3250	5.0
23						197	59	41	8.0	27	172	37
24						217	48	36	6.9	9.6	85	23
25						324	44	29	10	5.9	48	8.5
26						165	35	25	8.3	4.3	28	15
27						127	30	21	5.7	51	17	17
28						106	35	21	4.6	188	12	7.3
29						371	34	18	22	95	8.8	4.4
30						239	28	20	15	30	6.9	3.6
31						1140	---	88	---	13	5.5	---
TOTAL						13338	8456	1816	2032.5	689.6	6068.7	506.0
MEAN						430	282	58.6	67.8	22.2	196	16.9
MAX						4280	2160	326	331	188	3250	95
MIN						70	28	17	4.6	3.8	4.4	3.6
CFSM						3.61	2.37	.49	.57	.19	1.65	.14
IN.						4.17	2.64	.57	.64	.22	1.90	.16

04201500 ROCKY RIVER NEAR BEREA, OH

LOCATION.--Lat 41°24'24", long 81°53'14", in T.6 N., R.15 W., Cuyahoga County, Hydrologic Unit 04110001, on right bank at downstream side of Cedar Point Road Bridge in Rocky River Reservation, just downstream from confluence of East and West Branches, and 3.0 mi (4.8 km) northwest of Berea.

DRAINAGE AREA.--267 mi^2 (692 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to September 1935, September 1943 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 1437: 1924, 1925(M), 1926, 1927(M), 1928-29, 1930-35(M), 1945. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 649.90 ft (198.089 m) National Geodetic Vertical Datum of 1929 (Cuyahoga County bench mark). Prior to Sept. 30, 1935, nonrecording gage at same site and datum.

REMARKS.--Records good except those for the winter period and period of no gage-height record, Jan. 26 to Feb. 29, which are fair. Some regulation at low flow by small reservoirs on East Branch. Some interbasin transfer of water from Lake Erie for municipal water supply by Cleveland Metro Water District. Water-quality data collected at this site 1964 to 1977.

AVERAGE DISCHARGE.--49 years, 262 ft^3/s (7.420 m^3/s), 13.33 in/yr (339 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft^3/s (606 m^3/s) Jan. 22, 1959, gage height, 14.10 ft (4.298 m), from rating curve extended above 11,000 ft^3/s (312 m^3/s) on basis of contracted-opening measurement of peak flow; maximum gage height, 18.6 ft (5.67 m) June 29, 1924 (backwater caused by tornado); minimum daily discharge, 0.2 ft^3/s (0.006 m^3/s) Sept. 2, 1932, Aug. 22, 27, 30, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 20.9 ft (6.37 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,000 ft^3/s (113 m^3/s) and maximums (*):

Date	Time	Discharge (ft^3/s)	Discharge (m^3/s)	Gage height (ft)	Gage height (m)
Dec. 25	2000	*6670	189	*6.27	1.911
Mar. 8	1800	4460	126	5.09	1.551
Apr. 14	2300	4390	124	5.05	1.539

Minimum daily discharge, 29 ft^3/s (0.82 m^3/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	48	173	241	90	147	797	100	116	42	62	45
2	55	132	162	214	84	121	441	94	245	37	674	86
3	55	115	149	189	80	124	360	92	315	34	1560	66
4	198	68	139	168	77	134	2600	89	131	31	590	70
5	211	53	128	157	75	179	985	82	90	52	206	62
6	139	47	273	146	74	150	482	82	420	68	245	58
7	149	58	407	145	74	500	337	73	432	60	145	46
8	235	58	299	133	73	3310	294	69	886	41	86	44
9	149	94	201	145	72	1630	618	71	338	37	66	46
10	131	746	160	126	71	689	494	67	216	45	77	47
11	106	359	147	1170	71	625	376	97	142	148	134	51
12	92	157	154	1700	71	337	320	186	96	309	313	45
13	85	106	190	460	71	259	366	500	76	103	158	72
14	84	90	180	304	71	210	1570	354	64	60	91	862
15	96	96	144	241	70	182	2570	190	79	45	71	264
16	80	223	126	214	70	175	1150	125	439	63	60	121
17	70	187	124	241	70	348	611	150	200	57	55	109
18	62	126	107	289	70	854	381	914	104	39	89	110
19	58	111	112	227	72	631	284	667	79	34	131	85
20	53	97	102	179	73	419	227	310	113	30	100	63
21	47	85	98	147	80	2220	190	190	81	29	388	52
22	43	125	773	140	450	1970	168	134	61	143	2830	49
23	45	358	1160	140	2270	646	154	108	51	171	527	224
24	48	1620	2180	160	1700	618	140	100	46	75	225	127
25	48	785	4060	227	790	1040	128	89	46	51	133	76
26	50	1490	4450	254	370	513	116	76	42	44	93	72
27	48	747	1030	170	260	360	108	65	40	35	73	65
28	43	374	567	140	140	299	116	59	37	32	61	63
29	39	314	401	125	115	1060	113	54	33	260	54	47
30	38	215	326	110	---	846	102	56	37	124	54	41
31	39	---	277	100	---	1820	---	76	---	85	50	---
TOTAL	2661	9084	18819	8402	7654	22416	16598	5319	5055	2384	9401	3168
MEAN	85.8	303	607	271	264	723	553	172	169	76.9	303	106
MAX	235	1620	4450	1700	2270	3310	2600	914	886	309	2830	862
MIN	38	47	98	100	70	121	102	54	33	29	50	41
CFSM	.32	1.14	2.27	1.02	.99	2.71	2.07	.64	.63	.29	1.14	.40
IN.	.37	1.27	2.62	1.17	1.07	3.12	2.31	.74	.70	.33	1.31	.44

CAL YR 1979 TOTAL 127508 MEAN 349 MAX 5200 MIN 26 CFSM 1.31 IN 17.77
WTR YR 1980 TOTAL 110961 MEAN 303 MAX 4450 MIN 29 CFSM 1.14 IN 15.46

04201500 ROCKY RIVER NEAR BEREA, OH--Continued

SEDIMENT ANALYSES

PERIOD OF RECORD.--1969 to current year.

REMARKS.--Sediment sampling site at bridge 2,400 ft (732 m) downstream from discharge station.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: 1978 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,080 mg/L Sept. 14, 1979; minimum daily mean, 1 mg/L many days during 1978, 1980.
SEDIMENT LOADS: Maximum daily, 13,000 tons (11,800 tonnes) Sept. 14, 1979; minimum daily, 0.10 ton (0.09 tonne) Nov. 10, 1978.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,070 mg/L Mar. 8; minimum daily mean, 1 mg/L on April 27-30, May 1-7, 23-28.
SEDIMENT LOADS: Maximum daily, 10,200 tons (9,250 tonnes) Mar. 8; minimum daily, 0.16 tons (0.15 tonnes) May 28.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	65	9	1.6	48	6	.78	173	17	7.9
2	55	7	1.0	132	25	8.9	162	17	7.4
3	55	5	.74	115	16	5.0	149	20	8.0
4	198	47	25	68	7	1.3	139	12	4.5
5	211	56	32	53	3	.43	128	10	3.5
6	139	18	6.8	47	5	.63	273	14	10
7	149	22	8.9	58	2	.31	407	32	35
8	235	44	28	58	3	.47	299	17	14
9	149	22	8.9	94	15	7.3	201	11	6.0
10	131	18	6.4	746	191	426	160	10	4.3
11	106	10	2.9	359	49	60	147	8	3.2
12	92	7	1.7	157	14	5.9	154	40	17
13	85	5	1.1	106	9	2.6	190	23	12
14	84	5	1.1	90	6	1.5	180	12	5.8
15	96	5	1.3	96	8	2.1	144	8	3.1
16	80	5	1.1	223	25	15	126	7	2.4
17	70	5	.95	187	15	7.6	124	6	2.0
18	62	4	.67	126	10	3.4	107	5	1.4
19	58	4	.63	111	8	2.4	112	5	1.5
20	53	7	1.0	97	5	1.3	102	6	1.7
21	47	8	1.0	85	7	1.6	98	7	1.9
22	43	7	.81	125	26	10	773	149	462
23	45	4	.49	358	37	38	1160	159	533
24	48	4	.52	1620	273	1330	2180	491	3590
25	48	6	1.0	785	141	323	4080	584	7650
26	50	11	1.5	1490	193	849	4450	410	5600
27	48	8	1.0	747	142	310	1030	110	333
28	43	5	.58	374	40	40	567	47	72
29	39	5	.53	314	18	15	401	30	32
30	38	6	.62	215	17	9.9	326	22	19
31	39	5	.53	---	---	---	277	18	13
TOTAL	2661	---	140.37	9084	---	3479.42	18819	---	18456.6

04201500 ROCKY RIVER NEAR BEREA, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	241	13	8.5	90	5	1.2	147	12	4.8
2	214	11	6.4	84	5	1.1	121	8	2.6
3	169	10	5.1	80	5	1.1	124	7	2.3
4	168	10	4.5	77	5	1.0	134	8	2.9
5	157	10	4.2	75	5	1.0	179	80	88
6	146	10	3.9	74	5	1.0	150	110	178
7	145	10	3.9	74	5	1.0	500	65	88
8	133	10	3.6	73	5	.99	3310	1070	10200
9	145	10	3.9	72	5	.97	1630	261	1280
10	126	10	3.4	71	5	.96	689	116	225
11	1170	293	1750	71	5	.96	625	24	40
12	1700	408	2240	71	5	.96	337	13	12
13	460	92	114	71	5	.96	259	13	9.1
14	304	44	36	71	5	.96	210	12	6.8
15	241	16	10	70	5	.95	182	7	3.4
16	214	13	7.5	70	5	.95	175	8	3.8
17	241	13	8.5	70	5	.95	348	47	61
18	289	9	7.0	70	5	.95	854	148	341
19	227	9	5.5	72	5	.97	631	51	87
20	179	8	3.9	73	5	.99	419	21	24
21	147	8	3.2	80	5	1.1	2220	843	6990
22	140	8	3.0	450	610	741	1970	533	3440
23	140	7	2.6	2270	510	3130	646	96	167
24	160	7	3.0	1700	115	528	618	79	141
25	227	5	3.1	790	35	75	1040	186	541
26	254	5	3.4	370	22	22	513	58	80
27	170	5	2.3	260	13	9.1	360	27	26
28	140	5	1.9	140	13	4.9	299	17	14
29	125	5	1.7	115	13	4.0	1060	147	461
30	110	5	1.5	---	---	---	846	110	264
31	100	5	1.4	---	---	---	1820	703	3630
TOTAL	8402	---	4256.9	7654	---	4535.02	22416	---	28413.7

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	797	202	494	100	1	.27	116	8	2.5
2	441	35	42	94	1	.25	245	53	49
3	360	20	19	92	1	.25	315	66	61
4	2600	915	7010	89	1	.24	131	18	6.4
5	985	220	641	82	1	.22	90	12	2.9
6	482	65	85	82	1	.22	420	198	241
7	337	20	18	73	1	.20	432	109	145
8	294	20	16	69	2	.37	886	278	692
9	618	170	284	71	3	.58	338	94	91
10	494	70	93	67	4	.72	216	36	21
11	376	25	25	97	3	.79	142	16	6.1
12	320	23	20	186	7	4.4	96	8	2.1
13	366	18	18	500	25	34	76	5	1.0
14	1570	218	1910	354	13	12	64	5	.86
15	2570	517	4150	190	5	2.6	79	25	11
16	1150	180	559	125	3	1.0	439	219	260
17	611	27	45	150	6	2.4	200	76	44
18	381	8	8.2	914	37	96	104	24	6.9
19	284	6	4.6	667	33	59	79	6	1.3
20	227	5	3.1	310	15	13	113	15	4.6
21	190	5	2.6	190	5	2.6	81	7	1.5
22	168	5	2.3	134	2	.72	61	5	.82
23	154	4	1.7	108	1	.29	51	4	.55
24	140	4	1.5	100	1	.27	46	4	.50
25	128	3	1.0	89	1	.24	46	5	.62
26	116	2	.63	76	1	.21	42	4	.45
27	108	1	.29	65	1	.18	40	4	.43
28	116	1	.31	59	1	.16	37	4	.40
29	113	1	.31	54	2	.29	33	4	.36
30	102	1	.28	56	2	.30	37	4	.40
31	---	---	---	76	6	1.2	---	---	---
TOTAL	16598	---	15455.82	5319	---	234.97	5055	---	1655.69

04201500 ROCKY RIVER NEAR BEREA, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	42	5	.57	62	41	6.9	45	7	.85
2	37	5	.50	674	218	741	86	10	2.3
3	34	5	.46	1560	489	2140	66	10	1.8
4	31	5	.42	590	182	310	70	11	2.1
5	52	16	2.2	206	99	55	62	12	2.0
6	68	15	2.8	245	98	67	58	11	1.7
7	60	10	1.6	145	105	39	46	9	1.1
8	41	8	.89	86	58	13	44	9	1.1
9	37	7	.70	66	27	4.8	46	11	1.4
10	45	7	.85	77	47	9.8	47	12	1.5
11	148	49	78	134	55	20	51	7	.96
12	309	133	157	313	168	147	45	6	.73
13	103	19	5.3	158	118	50	72	30	15
14	60	16	2.6	91	51	13	862	466	1270
15	45	14	1.7	71	38	7.3	204	205	166
16	63	118	23	60	20	3.2	121	85	28
17	57	21	3.2	55	10	1.5	109	51	15
18	39	14	1.5	89	21	6.9	110	38	11
19	34	20	1.8	131	18	6.4	85	23	5.3
20	30	18	1.5	100	23	6.2	63	14	2.4
21	29	13	1.0	388	103	396	52	10	1.4
22	143	106	64	2830	810	6840	49	7	.93
23	171	139	69	527	117	183	224	125	81
24	75	60	12	225	71	44	127	80	27
25	51	34	4.7	133	32	11	76	38	7.8
26	44	28	3.3	93	15	3.8	72	21	4.1
27	35	268	25	73	10	2.0	65	13	2.3
28	32	592	51	61	8	1.3	63	12	2.0
29	260	563	395	54	7	1.0	47	10	1.3
30	124	181	61	54	8	1.2	41	8	.89
31	85	75	17	50	7	.95	---	---	---
TOTAL	2384	---	989.59	9401	---	11132.25	3168	---	1658.96
YEAR	110961		90409.29						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
MAR							
08...	0830	3290	1930	17100	28	40	52

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
MAR						
08...	78	88	90	97	99	100

04201655 ROCKY RIVER ABOVE SEWAGE TREATMENT PLANT NEAR LAKEWOOD, OH

LOCATION.--Lat 41°28'10", long 81°49'54", Cuyahoga County, Hydrologic Unit 04110001, at bridge on Park Boulevard, in Rocky River Reservation, 3.0 mi (4.8 km) southwest of Lakewood, and 2.9 mi (4.7 km) upstream from mouth.

DRAINAGE AREA.--291 mi² (754 km²).

PERIOD OF RECORD.--October 1977 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
APR									
09...	1115	860	611	8.2	38	3.1	341	.46	792
09...	1200	910	506	8.1	59	3.5	351	.48	862
09...	1315	980	575	7.7	36	3.4	333	.45	881
09...	1345	980	562	8.2	45	3.4	334	.45	884
09...	1500	980	592	8.1	51	3.4	359	.49	950
09...	1530	970	485	8.1	65	3.4	360	.49	943
09...	1600	965	605	8.1	47	3.4	365	.50	951
09...	1700	940	606	8.2	24	3.2	353	.48	896
09...	1800	880	599	8.2	--	--	348	.47	827
09...	1900	860	600	8.2	71	3.1	286	.39	664
10...	1030	--	537	8.1	--	3.6	273	.37	--
15...	1000	4890	344	7.8	150	4.3	186	.25	2460
15...	1100	4500	346	7.8	94	4.5	194	.26	2360
15...	1200	4050	331	7.8	71	4.5	190	.26	2080
15...	1300	3400	338	7.4	--	4.8	191	.26	1750
15...	1400	2860	342	7.7	106	4.7	196	.27	1510
15...	1500	2650	346	7.8	79	5.1	201	.27	1440
15...	1600	2300	353	7.8	90	4.8	212	.29	1320
15...	1700	2080	358	7.9	92	4.8	223	.30	1250
15...	1800	1950	366	7.9	98	4.9	222	.30	1170
JUL									
28...	1200	940	672	7.3	--	5.9	239	.33	607
28...	1500	790	485	7.3	--	5.5	173	.24	369
28...	1600	770	484	7.3	--	5.3	161	.22	335
28...	1700	710	512	7.6	--	5.8	198	.27	380
28...	2030	940	542	7.5	4	5.8	260	.35	660
29...	1000	810	510	7.6	--	7.0	190	.26	416
29...	1630	1190	479	7.9	--	7.0	240	.33	771

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)
APR								
09...	128	1.8	.05	1.6	1.6	3.5	15	.366
09...	142	1.8	.03	1.7	1.7	3.5	16	.401
09...	130	1.7	.02	1.7	1.7	3.5	16	.385
09...	122	1.7	.05	1.6	1.6	3.4	15	.403
09...	132	1.7	.04	1.5	1.5	3.3	14	.373
09...	131	1.6	.05	1.4	1.4	3.0	13	.350
09...	124	1.6	.01	1.3	1.3	3.0	13	.338
09...	98	1.5	.02	1.3	1.2	2.8	13	.339
09...	92	1.0	--	--	--	--	--	--
09...	97	1.5	.02	1.5	1.5	3.1	14	.314
10...	83	1.5	.01	1.5	1.5	3.1	14	.342
15...	783	.97	.04	2.3	2.3	3.3	15	.654
15...	641	.96	.00	2.1	2.1	3.1	14	.596
15...	598	.98	.01	2.0	2.0	3.0	13	.554
15...	530	1.0	.03	--	--	--	--	--
15...	440	1.0	.01	1.6	1.6	2.7	12	.505
15...	469	1.0	.01	1.3	1.2	2.3	10	.469
15...	383	1.0	.01	1.4	1.3	2.4	11	.432
15...	366	1.1	.03	1.2	1.2	2.4	11	.412
15...	359	1.1	.01	1.2	1.2	2.4	10	.383
JUL								
28...	446	2.0	.04	--	--	--	--	--
28...	515	1.9	.04	--	--	--	--	--
28...	489	2.1	.07	--	--	--	--	--
28...	457	2.3	.07	--	--	--	--	--
28...	780	2.0	.09	--	--	--	--	1.164
29...	441	2.0	.02	--	--	--	--	--
29...	357	1.9	.05	--	--	--	--	--

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OH

LOCATION.--Lat 41°20'26", long 81°10'01", in T.5 N., R.7 W., Portage County, Hydrologic Unit 04110002, on left bank at downstream side of bridge on Winchell Road at Hiram Rapids, 0.6 mi (1.0 km) downstream from Black Brook.

DRAINAGE AREA.--151 mi^2 (391 km^2).

PERIOD OF RECORD.--August 1927 to December 1935 (published as "near Hiram"), October 1944 to current year.

REVISED RECORDS.--WSP 1054: 1945. WSP 1437: 1931. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,087.46 ft (331.458 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Aug. 26, 1927, nonrecording gage and Aug. 26, 1927, to Dec. 31, 1935, water-stage recorder, at site 2.8 mi (4.5 km) downstream at different datum. Oct. 20, 1944, to Oct. 22, 1946, nonrecording gage at present site and datum.

REMARKS.--Records good. Flow regulated by East Branch Reservoir. Usable capacity, 4,140 acre-ft (5.10 hm^3), 14.6 mi (23.5 km) upstream since 1939 and by LaDue Reservoir, usable capacity, 18,110 acre-ft (22.3 hm^3), 9.8 mi (15.8 km) upstream since 1961. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--44 years, 205 ft^3/s (5.806 m^3/s), 18.44 in/yr (468 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft^3/s (104 m^3/s) Jan. 23, 1959, gage height, 8.11 ft (2.472 m), from rating curve extended above 2,600 ft^3/s (73.6 m^3/s); minimum daily, 6.6 ft^3/s (0.19 m^3/s) Sept. 10, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft^3/s (54.4 m^3/s) Dec. 27, gage height, 5.44 ft (1.658 m); minimum daily, 26 ft^3/s (0.74 m^3/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	72	392	465	130	276	530	128	80	53	53	52
2	83	78	342	362	125	241	530	117	82	50	79	57
3	103	83	290	286	120	199	485	107	93	39	181	51
4	120	81	258	234	120	151	490	93	80	47	252	42
5	134	73	227	193	120	83	525	80	64	58	370	57
6	140	67	227	180	120	120	565	72	76	66	439	60
7	151	72	234	147	120	142	535	65	110	65	434	57
8	175	76	248	130	115	298	465	58	223	95	401	55
9	227	90	255	122	115	425	545	56	283	151	351	52
10	306	156	255	130	115	565	708	54	415	181	308	56
11	338	199	248	196	115	570	812	73	480	186	287	57
12	330	258	241	334	115	525	735	100	526	175	291	56
13	306	302	234	383	110	440	636	142	463	135	295	53
14	298	302	227	495	110	370	603	193	383	79	291	178
15	294	279	220	505	110	298	779	230	303	49	275	223
16	290	279	208	445	110	248	999	234	239	46	242	194
17	276	272	193	383	110	241	994	208	208	65	208	165
18	248	283	177	346	115	302	829	205	189	83	175	140
19	211	283	170	314	120	370	642	223	168	80	131	105
20	182	269	160	294	128	425	490	237	148	75	98	86
21	151	248	156	262	147	570	383	230	125	70	105	83
22	119	269	187	234	223	873	302	211	95	77	142	82
23	149	272	269	202	406	1170	241	180	74	83	162	88
24	165	298	374	172	565	1110	193	149	58	79	183	86
25	156	326	840	167	675	955	163	119	48	55	183	80
26	126	397	1590	163	587	851	138	90	44	32	162	80
27	115	470	1880	151	475	746	122	70	41	26	123	78
28	110	495	1550	142	370	609	138	56	37	28	84	78
29	103	485	1130	136	310	525	149	48	41	39	60	74
30	91	445	818	130	---	475	140	45	49	42	51	72
31	81	---	609	128	---	500	---	73	---	38	53	---
TOTAL	5669	7279	14209	7831	6101	14673	14866	3946	5225	2347	6469	2597
MEAN	183	243	458	253	210	473	496	127	174	75.7	209	86.6
MAX	338	495	1880	505	675	1170	999	237	526	186	439	223
MIN	81	67	156	122	110	83	122	45	37	26	51	42
MEAN+	183	243	459	252	210	474	495	127	174	75.5	209	86.1
CFSM+	1.21	1.61	3.04	1.67	1.39	3.14	3.28	.84	1.15	.50	1.38	.57
IN.+	1.39	1.79	3.50	1.92	1.50	3.62	3.65	.97	1.29	.58	1.59	.64

CAL YR 1979 TOTAL 93598 MEAN 256 MAX 1880 MIN 25 MEAN+ 256 CFSM+ 1.70 IN.+ 23.03
WTR YR 1980 TOTAL 91212 MEAN 249 MAX 1880 MIN 26 MEAN+ 249 CFSM+ 1.65 IN.+ 22.44

+ Adjusted for change of contents of East Branch and LaDue Reservoirs.

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH

LOCATION.--Lat 41°08'08", long 81°32'50", Summit County, Hydrologic Unit 04110002, on right bank 230 ft (70 m) upstream from North Portage Path bridge at Old Portage, 1.2 mi (1.9 km) downstream from Little Cuyahoga River, and 4 mi (6 km) northwest of Akron City Hall.

DRAINAGE AREA.--404 mi² (1,046 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to December 1935, March 1939 to current year.

REVISED RECORDS.--WSP 1307: 1924(M). WSP 1912: Drainage area. WRD OH-79-2: 1974 (M), 1976 (M).

GAGE.--Water-stage recorder. Datum of gage is 740.11 ft (225.586 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Dec. 21, 1923, nonrecording gage at same site and datum.

REMARKS.--Records good. Natural flow of stream affected by diversions, storage reservoirs and power plants. At Lake Rockwell, 17.7 mi (28.5 km) upstream from gage, an average of 75 ft³/s (2.12 m³/s) was diverted for municipal supply of city of Akron. Sewage from city enters river 2.9 mi (4.7 km) downstream from station. Some diversion from the Tuscarawas River basin drainage into this basin at Portage Lakes (see REMARKS for station 03116000 in volume 1 of this report).

AVERAGE DISCHARGE.--55 years, 424 ft³/s (12.01 m³/s)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Jan. 21, 1959, gage height, 11.54 ft (3.517 m), from rating curve extended above 3,900 ft³/s (110 m³/s) on basis of contracted-opening estimate at gage height 11.54 ft (3.517 m), at site with drainage area of 488 mi² (1,264 km²) adjusted to gaging station by drainage-area relation; maximum gage height, 13.29 ft (4.051 m) Sept. 14, 1979; minimum daily, 26 ft³/s (0.736 m³/s) Sept. 2, 1945, July 5, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft³/s (99.7 m³/s) July 21, gage height, 9.34 ft (2.847 m); minimum daily, 115 ft³/s (3.26 m³/s) Sept. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	337	205	737	1010	229	477	1220	237	262	154	174	135
2	312	234	684	829	217	331	1090	216	531	148	293	149
3	288	198	587	691	219	282	1060	212	393	141	642	141
4	305	195	515	587	207	266	1380	193	309	133	716	138
5	285	191	461	515	210	302	1240	179	266	209	560	132
6	274	184	444	428	217	314	1050	172	698	160	516	115
7	323	186	467	384	222	390	988	160	686	148	526	116
8	305	184	471	354	219	1480	1250	160	735	147	561	126
9	369	311	457	314	225	1370	1740	162	737	204	509	184
10	454	572	434	271	219	1200	1380	167	749	196	522	178
11	533	543	422	848	237	1270	1280	211	778	236	653	138
12	617	488	441	1090	217	1090	1340	730	769	288	595	136
13	602	512	438	821	207	925	1310	566	715	297	488	201
14	602	576	409	840	207	825	1620	522	636	245	469	932
15	551	587	394	901	214	702	1810	500	662	193	458	558
16	533	576	387	917	237	840	1750	493	683	162	399	457
17	640	543	369	859	232	709	1710	503	511	145	388	369
18	591	508	323	806	207	855	1620	891	417	129	441	280
19	554	494	311	719	234	829	1370	736	367	125	328	227
20	522	477	317	648	267	814	1120	609	345	131	386	177
21	481	447	291	576	298	1650	929	558	314	794	745	158
22	369	461	448	512	952	1990	795	509	264	704	681	148
23	186	494	640	461	1220	1690	660	448	213	349	477	200
24	224	674	897	387	1080	1630	547	420	187	269	416	171
25	263	660	1640	340	1030	1800	464	438	192	246	409	162
26	282	851	2360	352	1030	1510	434	323	151	212	384	184
27	261	859	2300	331	914	1280	428	220	206	259	328	144
28	242	844	2380	305	804	1150	420	165	154	314	254	138
29	227	829	2170	306	622	1240	269	152	219	235	184	136
30	219	799	1680	253	---	1180	232	172	165	229	152	127
31	202	---	1290	242	---	1440	---	249	---	205	134	---
TOTAL	11953	14682	25164	17897	12396	31831	32494	11273	13274	7517	13896	6533
MEAN	386	489	812	577	427	1027	1083	364	442	242	448	218
MAX	640	859	2380	1090	1220	1990	1810	891	778	794	745	932
MIN	186	184	291	242	207	266	232	152	151	125	134	115

CAL YR 1979 TOTAL 211801 MEAN 580 MAX 5040 MIN 89
WTR YR 1980 TOTAL 198910 MEAN 543 MAX 2380 MIN 115

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to 1967, 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1970 to current year.
pH: October 1970 to current year.
WATER TEMPERATURES: October 1970 to current year.
DISSOLVED OXYGEN: October 1970 to current year.
SUSPENDED SEDIMENT DISCHARGE: March 1972 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos Aug. 4, 1977; minimum, 120 micromhos July 20, 1973.
pH: Maximum, 11.4 units Nov. 8, 1974; minimum, 6.2 units July 3, 1973.
WATER TEMPERATURES: Maximum, 34.5°C July 18, 1977; minimum, 0.0°C Jan. 16, 31, Dec. 17, 18, 1972, Jan. 8, 1973, Dec. 10-12, 25-28, 1977, Jan. 3, 9, 10, 16, 22, 23, 26-28, Feb. 6, 19, 20, 1978.
DISSOLVED OXYGEN: Maximum, 15.3 mg/L Feb. 19, 1979; minimum, 0.0 mg/L July 24, 29, 31, Aug. 1, 3-6, 1977.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,060 mg/L July 14, 1978; minimum daily mean, 1 mg/L Sept. 10, 1973, July 31, Aug. 1, 2, 1978.
SEDIMENT LOADS: Maximum daily, 9,340 tons (8,470 tonnes) Sept. 14, 1979; minimum daily, 0.15 ton (0.14 tonne) Sept. 10, 1973.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 864 micromhos Sept. 11, 12, 13; minimum, 231 micromhos July 21.
PH: Maximum, 8.7 units Mar. 20; minimum, 7.1 units Dec. 30, May 7, 11.
WATER TEMPERATURES: Maximum, 30.0°C Aug. 1; minimum, 1.0°C, Dec. 30.
DISSOLVED OXYGEN: Maximum, 13.4 mg/L Mar. 2; minimum, 2.0 mg/L, July 5.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 650 mg/L Sept. 14; minimum daily mean 3 mg/L many days during the year.
SEDIMENT LOADS: Maximum daily, 9,340 tons (8,470 tonnes) Sept. 14; minimum daily, 0.72 ton (0.65 tonne) July 21, Aug. 1, 2.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	582	546	675	582	555	436	348	324	---	---	603	582
2	585	558	642	570	558	453	375	342	---	---	624	549
3	585	573	678	645	549	489	405	372	---	---	588	549
4	633	558	678	660	498	480	459	402	---	---	630	579
5	603	582	693	675	507	489	543	435	---	---	819	633
6	630	600	708	660	531	495	525	504	---	---	735	696
7	603	318	717	690	522	501	525	513	---	---	780	519
8	591	567	705	660	528	501	543	492	---	---	666	513
9	612	555	702	507	519	489	576	570	---	---	501	432
10	603	573	621	519	492	477	612	570	---	---	438	414
11	585	546	609	546	489	480	750	513	---	---	432	411
12	543	498	570	531	507	480	531	408	---	---	447	411
13	501	492	546	522	516	471	423	405	---	---	447	402
14	501	483	522	495	516	480	426	417	---	---	552	423
15	510	477	504	477	519	498	420	405	---	---	558	483
16	501	483	492	471	576	498	420	396	---	---	492	471
17	489	471	498	477	549	525	423	405	---	---	549	474
18	477	456	489	477	579	525	429	417	---	---	507	480
19	480	459	495	477	573	537	435	423	---	---	480	447
20	471	462	495	474	585	558	447	420	---	---	456	411
21	489	462	501	477	585	570	447	432	---	---	465	387
22	543	480	495	474	645	540	453	435	750	630	387	342
23	621	543	483	471	597	549	639	450	702	498	357	345
24	591	564	471	432	552	492	585	504	501	474	348	333
25	594	567	462	447	495	387	705	528	633	438	342	330
26	624	597	462	420	390	354	624	573	555	480	348	333
27	618	591	450	426	372	330	588	567	609	522	357	342
28	594	588	435	420	342	315	591	570	624	546	372	348
29	612	588	447	426	312	288	579	561	591	552	384	360
30	633	612	447	432	306	264	594	576	---	---	390	372
31	642	630	---	---	324	297	---	---	---	---	396	336
MONTH	642	318	717	420	645	264	750	324	750	438	819	330

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	384	369	636	594	650	579	---	---	759	720	672	630
2	390	372	661	642	660	656	700	738	768	420	702	689
3	390	369	664	640	645	603	700	735	645	540	723	684
4	405	360	684	639	657	609	700	759	537	411	788	782
5	390	375	670	640	676	639	834	585	587	429	756	714
6	390	361	705	672	624	600	768	690	513	459	774	720
7	399	384	762	669	558	342	825	780	519	462	771	726
8	411	270	717	699	510	408	843	786	540	432	834	756
9	378	339	738	705	504	474	843	789	477	438	837	618
10	384	348	780	714	463	408	813	735	474	429	840	669
11	375	363	738	696	477	441	810	768	471	390	864	822
12	372	351	678	411	471	453	801	648	492	414	864	834
13	369	357	651	531	477	459	732	627	504	450	864	846
14	405	360	561	534	480	465	669	612	513	456	842	812
15	369	333	549	528	492	384	732	621	513	465	639	522
16	342	333	546	528	498	441	741	690	519	480	531	471
17	342	321	543	477	516	498	777	711	534	474	537	465
18	333	321	513	411	537	519	708	705	558	468	573	498
19	348	333	510	480	570	534	708	720	543	498	585	531
20	360	348	516	480	585	537	795	753	573	333	594	567
21	384	366	519	504	612	588	822	231	642	465	615	573
22	411	387	543	516	624	540	654	399	699	369	642	582
23	438	411	558	543	630	582	627	564	702	555	630	441
24	468	438	606	507	651	612	639	603	672	567	663	627
25	495	462	624	486	672	624	678	624	735	558	690	594
26	504	486	633	573	714	666	717	678	804	606	609	501
27	513	498	627	603	687	552	735	435	672	600	711	645
28	513	501	615	324	---	---	663	528	723	588	684	654
29	591	519	687	609	---	---	729	660	621	591	738	669
30	621	573	714	684	---	---	729	693	642	600	741	693
31	---	---	690	522	---	---	735	705	657	597	---	---
MONTH	621	270	780	324	714	342	843	231	804	333	864	441
YEAR	864	231										

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	7.9	7.4	---	---	7.7	7.6	---	---	8.1	7.8
2	---	---	7.9	7.3	---	---	7.8	7.6	---	---	8.0	7.8
3	---	---	7.9	7.5	---	---	8.1	7.6	---	---	8.0	7.7
4	7.7	7.6	8.0	7.5	---	---	7.7	7.7	---	---	8.1	7.6
5	7.8	7.7	8.0	7.5	---	---	7.8	7.7	---	---	7.9	7.6
6	7.8	7.7	8.0	7.5	---	---	7.8	7.7	---	---	8.3	7.7
7	7.8	7.6	7.9	7.6	---	---	7.8	7.7	---	---	8.2	7.7
8	8.1	7.7	7.9	7.6	---	---	7.8	7.7	---	---	7.9	7.7
9	7.8	7.7	7.7	7.3	---	---	---	---	---	---	7.8	7.7
10	7.9	7.8	7.7	7.5	---	---	7.8	7.7	---	---	7.8	7.7
11	7.9	7.8	7.8	7.7	7.5	7.4	7.9	7.6	---	---	8.0	7.8
12	8.1	7.8	8.0	7.7	7.6	7.4	7.9	7.8	---	---	7.9	7.8
13	7.9	7.8	7.9	7.8	7.6	7.5	7.8	7.7	---	---	8.0	7.8
14	7.9	7.8	7.9	7.8	7.9	7.5	7.8	7.7	---	---	8.1	7.9
15	7.9	7.7	8.0	7.8	7.7	7.5	7.8	7.7	---	---	8.0	7.8
16	7.8	7.8	8.0	7.8	7.7	7.5	7.8	7.7	---	---	7.9	7.7
17	7.9	7.7	7.9	7.8	7.9	7.5	7.7	7.7	---	---	7.9	7.8
18	7.9	7.7	7.9	7.8	7.7	7.4	7.9	7.7	---	---	8.1	7.9
19	8.0	7.8	7.9	7.8	7.7	7.4	7.8	7.7	---	---	8.0	7.8
20	8.0	7.8	7.9	7.7	7.7	7.5	7.8	7.7	---	---	8.0	7.8
21	8.0	7.8	7.9	7.7	7.7	7.4	7.9	7.8	---	---	8.1	7.8
22	8.0	7.7	7.8	7.6	7.6	7.4	7.8	7.8	7.9	7.8	7.9	7.8
23	7.9	7.7	7.8	7.6	7.6	7.5	8.0	7.8	7.8	7.7	7.9	7.8
24	7.9	7.7	7.8	7.7	7.5	7.4	7.9	7.8	7.8	7.7	7.9	7.8
25	8.0	7.8	7.8	7.7	7.5	7.4	7.9	7.8	7.9	7.7	7.9	7.8
26	8.0	7.8	7.9	7.6	7.5	7.4	7.9	7.8	7.9	7.8	8.0	7.8
27	8.0	7.7	8.0	7.7	7.5	7.4	7.9	7.8	7.8	7.8	8.2	7.8
28	8.0	7.7	7.9	7.7	7.4	7.4	7.9	7.8	8.0	7.8	8.7	7.9
29	7.9	7.7	8.0	7.8	7.4	7.2	8.0	7.8	8.2	7.8	7.9	7.8
30	7.9	7.6	7.9	7.8	7.3	7.1	8.1	7.9	---	---	8.0	7.8
31	7.9	7.5	---	---	7.6	7.3	---	---	---	---	8.2	7.8
MONTH	8.1	7.5	8.0	7.3	7.9	7.1	8.1	7.6	8.2	7.7	8.7	7.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.8	---	---	8.0	7.7					---	---
2	8.0	7.8	---	---	7.9	7.6					---	---
3	8.0	7.8	---	---	7.9	7.6					---	---
4	8.2	7.8	---	---	7.9	7.7					---	---
5	8.0	7.9	---	---	7.9	7.7					---	---
6	8.0	7.9	8.3	7.2	8.1	7.6					---	---
7	8.1	7.9	8.3	7.1	8.0	7.6					---	---
8	8.3	7.7	7.9	7.2	8.2	7.9					---	---
9	8.0	7.8	7.8	7.2	8.2	7.6					---	---
10	8.1	7.9	7.7	7.2	7.8	7.7					---	---
11	8.1	7.9	7.7	7.1	7.9	7.7					---	---
12	7.9	7.9	8.0	7.8	7.9	7.8					---	---
13	8.0	7.9	8.1	7.5	7.9	7.6					---	---
14	8.0	7.9	8.0	7.6	8.0	7.6					---	---
15	8.2	7.9	7.8	7.5	7.9	7.5					---	---
16	8.1	7.9	7.8	7.4	7.9	7.7					---	---
17	8.2	7.8	7.8	7.3	7.9	7.8					---	---
18	8.0	7.8	7.8	7.5	7.9	7.8					7.5	7.3
19	7.9	7.8	7.9	7.7	7.9	7.7					7.5	7.3
20	8.0	7.9	7.9	7.8	7.9	7.7					7.6	7.3
21	8.1	8.0	7.9	7.6	7.9	7.8					7.5	7.3
22	8.2	7.9	7.9	7.2	8.0	7.8					7.5	7.3
23	---	---	7.8	7.6	8.0	7.7					7.6	7.3
24	---	---	7.9	7.3	7.9	7.6					7.6	7.5
25	---	---	8.0	7.6	8.0	7.6					7.6	7.4
26	---	---	7.8	7.4	7.9	7.5					7.6	7.4
27	---	---	7.7	7.4	---	---					7.6	7.5
28	---	---	7.7	7.4	---	---					7.6	7.4
29	---	---	7.7	7.4	---	---					[illegible]	7.5
30	---	---	7.9	7.5	---	---					7.6	7.5
31	---	---	7.9	7.3	---	---					---	---
MONTH	8.3	7.7	8.3	7.1	8.2	7.6					7.6	7.3
YEAR	8.7	7.1										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	15.0	14.0	7.0	6.5	2.5	2.0	---	---	3.0	2.0
2	---	---	15.0	10.0	6.5	5.5	3.0	2.5	---	---	3.0	1.5
3	---	---	14.5	13.5	6.5	5.0	3.5	3.0	---	---	6.0	1.5
4	---	---	13.5	12.0	6.5	5.5	3.5	2.5	---	---	7.5	4.0
5	---	---	13.5	11.5	7.5	6.0	3.5	2.0	---	---	7.5	5.5
6	---	---	13.0	12.0	7.5	7.0	2.5	1.5	---	---	7.5	6.5
7	---	---	12.5	11.5	7.5	7.0	2.5	2.0	---	---	7.5	6.5
8	---	---	12.5	11.0	7.0	6.0	3.5	3.0	---	---	4.5	3.0
9	---	---	13.0	12.0	6.5	5.5	3.0	2.0	---	---	3.0	2.0
10	---	---	13.0	12.0	6.5	5.0	5.0	2.0	---	---	4.5	3.0
11	---	---	12.0	10.5	7.5	5.5	5.5	3.0	---	---	3.5	2.0
12	---	---	11.0	10.5	7.5	6.5	3.0	1.5	---	---	3.0	2.0
13	---	---	10.5	9.0	7.5	6.0	2.5	1.5	---	---	3.5	3.0
14	---	---	8.0	7.5	6.5	5.0	3.5	2.5	---	---	3.5	3.0
15	---	---	7.5	7.0	6.5	4.5	3.5	3.0	---	---	4.5	2.5
16	---	---	7.0	6.5	5.0	3.5	3.5	2.5	---	---	5.5	3.0
17	---	---	7.5	6.5	4.0	3.0	4.5	3.5	---	---	7.0	5.0
18	---	---	7.5	6.5	4.5	3.0	4.0	3.5	---	---	6.5	5.5
19	---	---	8.5	6.5	5.5	4.0	3.5	2.5	---	---	6.5	4.5
20	---	---	10.0	8.0	5.5	4.0	2.5	2.0	---	---	7.5	5.0
21	---	---	10.0	8.5	6.0	4.5	3.5	2.0	---	---	7.5	5.0
22	---	---	10.5	10.0	6.0	5.0	4.0	3.0	5.5	4.5	5.0	3.0
23	---	---	10.5	10.0	5.5	4.5	4.5	3.0	4.5	3.5	3.5	3.0
24	---	---	10.5	9.0	5.5	5.0	3.0	2.0	3.5	2.5	4.5	3.5
25	---	---	9.0	8.5	5.5	4.0	4.0	2.5	3.5	2.5	4.5	4.0
26	---	---	9.5	9.0	4.0	2.5	4.0	2.5	2.5	1.5	4.0	3.5
27	---	---	9.0	8.5	3.5	3.0	4.0	2.5	2.5	1.5	5.5	3.5
28	---	---	9.0	8.0	3.0	2.5	4.0	3.0	3.5	1.5	6.0	5.0
29	13.5	12.0	8.5	7.0	2.5	2.0	3.5	3.0	3.5	1.5	6.0	5.5
30	14.0	12.0	8.0	7.0	2.0	1.0	4.0	2.5	---	---	6.5	5.5
31	15.5	13.0	---	---	2.5	1.5	---	---	---	---	7.0	6.5
MONTH	15.5	12.0	15.0	6.5	7.5	1.0	5.5	1.5	5.5	1.5	7.5	1.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	6.5	18.0	14.0	23.5	21.0	---	---	30.0	26.5	27.0	23.0
2	8.5	7.0	17.5	14.5	24.0	20.0	27.0	24.0	27.5	25.5	25.5	22.5
3	9.5	7.5	20.5	15.0	24.0	22.0	27.0	22.5	27.0	22.5	26.5	21.5
4	10.0	8.0	21.5	16.0	24.5	21.0	27.0	21.5	25.5	22.0	26.5	22.0
5	8.5	7.0	22.5	16.5	25.0	20.0	26.0	23.0	27.0	24.0	27.0	23.0
6	9.5	8.0	21.5	18.5	23.5	19.0	27.5	23.0	26.5	25.0	27.0	22.0
7	9.5	9.0	20.5	17.5	22.5	21.0	26.0	25.5	26.5	25.0	24.5	20.5
8	12.0	9.5	17.5	15.5	21.0	19.5	26.0	23.0	29.5	26.0	25.0	20.0
9	10.5	10.0	19.0	15.0	20.5	18.5	25.5	23.0	26.0	26.0	23.5	20.5
10	10.0	9.5	20.0	15.0	19.0	18.0	---	---	27.5	25.5	23.5	20.0
11	10.0	8.5	19.0	16.5	19.0	18.5	---	---	29.0	26.0	23.5	18.5
12	10.0	9.5	17.5	15.0	20.0	18.0	---	---	26.0	26.0	24.5	19.5
13	9.5	8.5	19.5	16.5	21.5	18.0	---	---	28.0	25.0	25.5	21.0
14	11.0	8.5	18.5	16.5	22.0	19.5	---	---	27.5	25.0	24.0	20.5
15	10.0	8.0	18.0	15.5	21.5	20.0	---	---	27.5	25.5	21.0	19.0
16	8.0	7.0	18.0	14.5	21.5	19.5	---	---	25.5	23.5	19.5	18.0
17	8.5	7.5	16.0	15.0	21.5	18.0	---	---	23.5	21.0	19.5	17.5
18	9.5	8.0	17.0	15.0	22.5	18.0	---	---	24.5	20.5	21.0	17.0
19	11.0	9.5	17.5	16.0	24.0	19.0	---	---	26.5	23.5	21.0	16.5
20	12.0	10.5	18.0	15.5	23.5	19.5	---	---	27.0	24.5	21.0	17.0
21	14.5	11.5	20.0	16.5	23.0	19.5	---	---	27.0	24.5	21.5	17.5
22	16.5	13.5	22.0	18.0	23.5	19.0	---	---	25.0	23.0	22.0	19.0
23	16.5	15.5	21.5	19.0	25.0	19.0	---	---	24.0	21.5	21.0	19.0
24	16.5	14.0	21.5	19.5	24.5	21.5	26.0	25.5	23.5	20.5	20.5	17.5
25	15.5	13.0	23.0	19.0	27.0	21.5	25.5	24.0	24.5	20.0	19.0	16.0
26	15.5	12.5	23.0	19.0	28.0	22.5	29.5	24.5	25.5	22.0	17.5	15.0
27	13.0	11.5	20.0	18.0	25.5	24.5	27.0	24.5	26.0	23.0	16.0	14.5
28	15.0	12.0	25.0	20.0	---	---	28.0	24.0	26.5	24.0	17.0	13.5
29	16.5	12.5	25.0	20.0	---	---	29.0	25.0	28.5	24.5	18.0	13.5
30	17.5	12.5	24.5	21.5	---	---	29.5	26.0	28.0	25.0	19.5	16.5
31	---	---	25.0	22.0	---	---	28.0	25.5	26.0	23.5	---	---
MONTH	17.5	6.5	25.0	14.0	28.0	16.5	29.5	20.5	30.0	20.0	27.0	13.5
YEAR	30.0	1.0										

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.7	6.8	9.2	8.5	10.4	10.0	12.1	11.0	---	---	13.0	12.1
2	7.3	6.5	9.3	8.8	10.7	10.0	12.0	11.7	---	---	13.4	12.0
3	8.4	6.6	9.2	7.1	10.7	10.1	11.8	11.4	---	---	13.2	11.3
4	8.8	6.0	9.1	7.1	10.4	9.6	11.8	11.1	---	---	12.9	10.6
5	7.5	6.4	10.3	7.6	10.5	9.3	11.4	11.0	---	---	11.0	10.4
6	7.4	7.0	9.1	7.0	9.4	8.9	11.6	10.2	---	---	12.8	10.5
7	7.5	7.1	9.3	7.0	9.6	9.0	10.7	10.6	---	---	12.5	10.6
8	7.8	7.3	9.3	7.6	10.1	9.4	11.0	10.7	---	---	12.2	11.7
9	7.6	7.2	8.4	6.6	10.2	9.6	---	---	---	---	12.5	12.1
10	7.8	7.4	8.5	6.0	12.9	9.6	---	---	---	---	12.1	11.6
11	8.0	7.5	9.0	6.5	12.2	10.0	11.9	11.4	---	---	12.3	11.6
12	8.0	7.6	9.8	8.0	11.2	9.0	12.4	12.0	---	---	12.6	12.1
13	8.1	7.7	10.7	9.3	11.7	10.0	12.3	11.8	---	---	12.1	11.9
14	8.2	7.6	10.6	9.0	11.9	11.0	11.8	11.5	---	---	12.3	11.9
15	8.6	7.6	10.6	9.9	11.6	10.7	11.7	11.6	---	---	12.7	11.0
16	8.1	7.7	11.2	10.4	11.3	10.5	11.9	11.4	---	---	12.3	11.4
17	8.4	7.8	11.8	10.3	12.0	10.7	11.3	11.1	---	---	11.3	10.6
18	9.5	7.6	11.1	10.3	12.1	10.5	11.3	11.0	---	---	12.0	11.2
19	9.3	6.5	11.0	9.7	11.7	10.5	11.5	11.0	---	---	12.1	11.3
20	9.0	7.8	10.5	9.6	11.9	10.4	11.7	11.3	---	---	11.9	10.8
21	9.4	7.6	10.5	9.0	11.8	10.0	11.4	10.8	---	---	11.8	10.3
22	8.8	7.1	9.5	8.9	10.8	10.0	12.9	10.6	---	---	12.3	11.7
23	8.0	7.0	9.7	9.0	11.1	10.6	12.4	11.9	12.4	12.0	12.3	11.6
24	7.6	6.9	9.7	8.9	10.9	10.7	12.8	11.9	12.5	12.2	11.9	11.5
25	8.3	6.8	9.8	9.0	11.6	10.8	12.6	11.7	12.4	12.0	11.9	11.7
26	8.5	7.5	9.7	8.7	11.9	11.6	12.5	11.9	13.2	12.5	12.1	11.7
27	8.0	6.8	9.6	9.3	11.0	11.3	12.4	11.0	12.9	12.4	12.0	11.6
28	7.1	6.6	9.7	9.3	11.9	11.6	12.3	11.6	12.9	12.2	11.8	11.2
29	9.7	8.3	10.3	9.6	12.1	11.8	12.2	11.8	13.0	12.2	11.9	11.2
30	9.6	8.1	10.4	9.9	11.7	11.2	12.2	11.4	---	---	11.8	10.7
31	9.7	7.8	---	---	12.4	11.4	---	---	---	---	11.8	10.9
MONTH	9.7	6.3	11.2	6.6	12.9	8.9	12.9	10.6	13.2	12.0	13.4	10.3

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.1	10.7	11.4	9.2	7.6	6.0	---	---	9.6	6.7		
2	11.4	10.8	10.8	9.0	7.0	5.6	8.3	5.0	5.8	6.1		
3	11.4	10.2	11.9	5.6	8.9	6.3	8.7	4.8	8.9	5.7		
4	11.0	10.3	---	---	7.6	6.3	8.8	4.8	7.3	6.5		
5	11.6	10.9	12.7	5.0	7.7	5.7	8.9	2.0	7.3	6.8		
6	11.4	10.6	12.4	5.0	7.3	5.2	7.4	4.8	7.2	6.1		
7	11.1	10.5	11.9	5.4	7.2	6.1	8.0	5.0	7.5	6.1		
8	10.9	9.8	9.9	5.9	7.8	6.7	---	---	7.5	6.1		
9	10.6	10.2	8.8	6.3	8.1	6.7	---	---	7.3	6.8		
10	10.5	10.1	8.5	6.1	8.2	7.0	8.3	5.3	7.3	6.1		
11	10.8	10.2	7.5	5.3	8.4	7.0	7.7	5.4	7.2	5.1		
12	10.4	10.2	7.8	4.8	8.4	7.8	7.4	5.4	7.2	6.1		
13	10.7	10.2	7.5	5.7	8.1	7.2	8.1	5.8	7.0	6.0		
14	10.7	9.8	7.7	6.0	7.0	6.0	8.3	6.1	7.1	6.0		
15	10.9	10.0	8.6	7.4	7.4	6.1	8.0	5.2	7.2	6.1		
16	10.9	10.4	8.9	6.0	7.7	7.0	7.8	4.8	7.2	6.1		
17	10.7	9.8	8.5	7.7	8.0	7.0	7.8	4.3	7.4	6.5		
18	10.4	9.7	8.3	7.8	7.8	6.4	7.6	4.3	7.4	6.1		
19	10.1	9.3	8.0	7.3	7.9	5.9	7.2	4.2	7.4	5.8		
20	9.7	8.7	8.1	7.4	7.8	6.0	6.0	4.2	6.5	5.7		
21	9.4	8.5	8.0	7.3	8.0	6.0	7.2	2.8	---	---		
22	9.0	7.7	8.2	7.1	8.3	5.7	7.6	6.7	---	---		
23	9.4	7.7	8.0	6.9	9.3	5.3	7.0	6.0	---	---		
24	9.8	7.0	7.9	6.9	8.2	4.8	7.7	5.8	---	---		
25	10.3	7.6	7.8	5.0	8.0	4.8	8.5	5.5	---	---		
26	10.8	7.8	7.7	6.4	8.5	6.6	8.8	5.6	---	---		
27	10.1	7.6	8.0	6.6	---	---	8.5	6.2	---	---		
28	10.2	7.3	8.8	6.1	---	---	8.3	5.8	---	---		
29	11.9	8.8	8.8	5.7	---	---	8.6	5.2	---	---		
30	11.6	8.6	8.6	6.0	---	---	8.3	5.1	---	---		
31	---	---	7.6	6.3	---	---	8.3	6.0	---	---		
MONTH	11.9	8.4	12.7	4.3	9.3	4.4	9.3	2.0	7.5	6.1		
YEAR	13.4	2.0										

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	337	28	25	205	7	3.9	737	16	32
2	312	26	22	234	22	14	684	18	33
3	288	26	20	198	22	12	587	13	21
4	305	27	22	195	12	6.3	515	13	18
5	285	26	20	191	7	3.6	461	11	14
6	274	22	16	184	7	3.5	444	11	13
7	323	42	37	186	6	3.0	467	11	14
8	305	28	23	184	6	3.0	471	12	15
9	369	41	41	311	247	354	457	11	14
10	454	47	58	572	167	278	434	9	11
11	533	48	69	543	21	31	422	8	9.1
12	617	37	62	488	18	24	441	10	12
13	602	33	54	512	12	17	438	13	15
14	602	27	44	576	18	28	409	10	11
15	551	25	37	587	13	21	394	11	12
16	533	21	30	576	12	19	387	8	8.4
17	640	21	36	543	9	13	369	8	8.0
18	591	19	30	508	9	12	323	7	6.1
19	554	18	27	494	8	11	311	9	7.6
20	522	15	21	477	9	12	317	8	6.8
21	481	14	18	447	9	11	291	11	8.6
22	369	17	17	461	12	15	448	53	64
23	186	11	5.5	494	12	16	640	42	73
24	224	11	6.7	674	70	129	897	110	266
25	263	8	5.7	660	20	36	1640	211	907
26	282	10	7.6	851	68	154	2360	88	561
27	261	9	6.3	859	39	90	2300	86	534
28	242	10	6.5	844	28	64	2380	63	405
29	227	8	4.9	829	21	47	2170	49	287
30	219	15	8.9	799	18	39	1680	40	181
31	202	10	5.5	---	---	---	1290	38	132
TOTAL	11953	---	786.6	14682	---	1470.3	25164	---	3699.6
		JANUARY			FEBRUARY			MARCH	
1	1010	27	74	229	9	5.6	477	22	28
2	829	22	49	217	9	5.3	331	24	21
3	691	19	35	219	9	5.3	282	19	14
4	587	15	24	207	9	5.0	266	16	11
5	515	17	24	210	10	5.7	302	37	30
6	428	17	20	217	8	4.7	314	23	19
7	384	12	12	222	9	5.4	390	50	66
8	354	10	9.6	219	7	4.1	1480	301	842
9	314	10	8.5	225	8	4.9	1370	86	318
10	271	13	9.5	219	7	4.1	1200	74	240
11	848	328	943	237	7	4.5	1270	73	250
12	1090	100	294	217	7	4.1	1090	42	124
13	821	48	106	207	10	5.6	925	35	87
14	840	30	68	207	9	5.0	825	33	74
15	901	28	68	219	8	4.7	702	30	57
16	917	31	77	237	6	3.8	640	25	43
17	859	30	70	232	8	5.0	709	50	96
18	806	26	57	207	9	5.0	855	40	92
19	719	28	54	234	12	7.6	829	27	60
20	648	21	37	267	17	12	814	23	51
21	576	17	26	296	16	13	1650	191	331
22	512	18	25	952	234	619	1990	132	709
23	461	15	19	1220	82	270	1690	63	287
24	387	13	14	1080	40	117	1830	64	316
25	340	12	11	1030	37	103	1800	65	316
26	352	13	12	1030	42	117	1510	53	216
27	331	14	13	914	39	96	1280	35	121
28	305	12	9.9	804	34	74	1150	45	140
29	306	10	8.3	622	31	52	1240	44	147
30	253	10	6.8	---	---	---	1180	38	121
31	242	10	6.5	---	---	---	1440	85	346
TOTAL	17897	---	2191.1	12396	---	1568.4	31831	---	5573

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	1220	46	152	237	15	9.6	262	40	28
2	1090	35	103	216	20	12	531	104	155
3	1060	32	92	212	12	6.9	393	22	23
4	1380	66	246	193	10	5.2	309	15	13
5	1240	38	127	179	8	3.9	266	13	9.3
6	1050	27	77	172	11	5.1	698	142	284
7	988	25	67	160	9	3.9	686	131	303
8	1250	85	481	160	10	4.3	735	113	227
9	1740	206	971	162	12	5.2	737	40	80
10	1380	57	212	167	11	5.0	749	31	63
11	1260	39	133	211	13	7.4	778	27	57
12	1340	41	148	730	282	940	769	18	37
13	1310	40	141	566	66	102	715	18	35
14	1620	221	1070	522	33	47	636	20	34
15	1810	101	482	500	25	34	662	87	193
16	1750	43	203	493	18	24	683	43	82
17	1710	36	166	503	37	68	511	18	25
18	1620	38	166	891	79	190	417	12	14
19	1370	36	133	736	30	60	367	10	9.9
20	1120	23	70	609	24	39	345	9	8.4
21	929	28	70	558	19	29	314	7	5.9
22	795	24	52	509	18	25	264	14	10
23	660	14	25	448	14	17	213	11	6.3
24	547	17	25	420	21	28	187	8	4.0
25	464	15	19	438	42	51	152	6	2.5
26	434	12	14	323	15	13	151	10	4.1
27	428	13	15	220	11	6.5	206	32	21
28	428	15	17	165	8	3.6	154	11	4.7
29	269	15	11	152	7	2.9	219	27	18
30	232	11	6.9	172	7	3.3	165	8	3.6
31	---	---	---	249	16	11	---	---	---
TOTAL	32494	---	5494.9	11273	---	1762.8	13274	---	1760.7
		JULY			AUGUST			SEPTEMBER	
1	154	7	2.9	174	14	6.6	135	7	2.6
2	148	6	2.4	293	103	162	149	9	3.6
3	141	14	5.3	692	158	292	141	10	3.8
4	133	8	2.9	716	56	108	138	11	4.1
5	209	49	37	560	38	57	132	13	4.6
6	160	12	5.2	516	32	45	115	11	3.4
7	148	6	2.4	526	30	43	116	16	5.0
8	147	5	2.0	561	28	42	126	11	3.7
9	204	49	35	589	27	43	184	59	39
10	196	13	6.9	522	31	44	178	31	17
11	236	9	5.7	653	62	109	138	12	4.5
12	288	21	16	595	41	66	136	9	3.3
13	297	18	14	488	23	30	201	29	38
14	245	12	7.9	469	21	27	932	239	701
15	193	8	4.2	458	25	31	558	48	72
16	162	7	3.1	399	21	23	457	37	46
17	145	7	2.7	388	18	19	369	28	28
18	129	13	4.5	441	28	33	280	19	14
19	125	9	3.0	328	18	16	227	13	8.0
20	131	8	2.8	386	91	171	177	12	5.7
21	794	109	593	745	386	1620	158	10	4.3
22	764	193	406	681	408	806	146	9	3.5
23	399	52	60	477	75	97	280	58	60
24	269	21	15	416	28	31	171	13	6.0
25	246	16	11	409	17	19	162	13	5.7
26	212	15	8.6	364	14	14	184	24	12
27	259	85	88	326	14	12	144	10	3.9
28	314	60	53	254	12	8.2	136	7	2.6
29	235	20	13	184	11	5.5	136	7	2.6
30	229	19	12	152	7	2.9	127	6	2.1
31	205	38	21	134	7	2.5	---	---	---
TOTAL	7517	---	1446.5	13896	---	3985.7	6533	---	1110.0
YEAR	198910		30849.6						

04207200 TINKERS CREEK AT BEDFORD, OH

LOCATION.--Lat 41°23'04", long 81°31'39", in T.6 N., R.11 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank at downstream side of bridge on State Highway 14 in Bedford, 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--83.9 mi² (217 km²).

PERIOD OF RECORD.--November 1962 to current year.

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 876.18 ft (267.060 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--17 years (1963-80), 127 ft³/s (3.597 m³/s), 20.56 in/yr (522 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,220 ft³/s (204 m³/s) July 20, 1969, gage height, 10.10 ft (3.078 m), from rating curve extended above 3,400 ft³/s (96.3 m³/s) on the basis of contracted-opening measurement of peak flow; minimum, 5.2 ft³/s (0.15 m³/s) Aug. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1230	2300	65.1	6.76	2.060	Sept. 14	0500	*2420	68.5	*6.85	2.088
Aug. 21	2030	1560	44.2	6.11	1.862						

Minimum discharge, 14 ft³/s (0.40 m³/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	70	101	123	40	65	365	43	75	21	22	19
2	37	119	92	109	38	55	212	42	80	21	308	44
3	64	77	86	97	36	50	190	38	57	20	490	30
4	173	61	77	80	34	46	689	35	38	19	315	24
5	101	54	80	70	34	159	435	34	30	80	289	23
6	64	48	105	60	33	143	227	56	155	48	181	19
7	200	83	136	55	32	203	155	44	235	22	83	17
8	87	60	123	55	31	846	281	36	349	51	70	18
9	190	197	94	50	31	613	542	32	381	26	70	54
10	304	448	77	50	31	365	553	30	225	25	87	27
11	203	296	72	558	31	245	277	67	139	23	171	22
12	146	164	97	381	31	155	252	109	83	49	162	19
13	159	107	90	377	31	115	225	245	57	27	72	89
14	143	121	81	187	31	99	642	121	43	23	42	879
15	101	159	67	130	31	92	591	74	54	21	35	166
16	90	238	60	113	31	105	516	49	86	61	27	89
17	74	153	60	150	32	222	285	61	55	30	29	87
18	58	111	49	155	34	349	171	349	38	23	51	60
19	49	90	55	123	39	263	125	263	44	19	33	43
20	66	81	50	97	63	171	107	117	63	16	141	34
21	49	72	50	83	169	756	90	75	36	34	418	28
22	38	153	510	74	913	807	81	54	30	90	345	30
23	36	155	405	69	826	636	72	44	27	83	212	111
24	36	393	839	66	653	470	66	37	26	35	84	48
25	43	266	1470	60	312	389	58	33	26	23	51	34
26	45	475	1210	60	176	259	57	30	26	19	40	40
27	34	296	852	56	110	173	50	30	26	54	34	31
28	37	222	426	51	90	176	51	28	23	119	29	25
29	38	157	235	48	80	361	46	27	20	80	26	24
30	33	121	171	44	---	308	46	50	24	37	25	24
31	31	---	143	43	---	531	---	74	---	25	20	---
TOTAL	2775	5047	7953	3674	4023	9227	7463	2327	2551	1224	3962	2158
MEAN	89.5	168	257	119	139	298	249	75.1	85.0	39.5	128	71.9
MAX	304	475	1470	558	913	846	689	349	381	119	490	879
MIN	31	48	49	43	31	46	46	27	20	16	20	17
CFSM	1.07	2.00	3.06	1.42	1.66	3.55	2.97	.90	1.01	.47	1.53	.86
IN.	1.23	2.24	3.53	1.63	1.78	4.09	3.31	1.03	1.13	.54	1.76	.96

CAL YR 1979 TOTAL 61938 MEAN 170 MAX 2470 MIN 24 CFSM 2.03 IN 27.46
WTR YR 1980 TOTAL 52394 MEAN 143 MAX 1470 MIN 16 CFSM 1.70 IN 23.23

04207500 OHIO CANAL AT INDEPENDENCE, OH

LOCATION.--Lat 41°23'25", long 81°37'30", in T.6 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on right bank at upstream side of dam, 0.3 mi (0.5 km) upstream from Rockside Road and 0.8 mi (1.3 km) northeast of Independence.

PERIOD OF RECORD.--September 1921 to May 1923, August 1927 to December 1935, October 1940 to current year.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 605.31 ft (184.488 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 9, 1946, nonrecording gage, or water-stage recorder at site 0.4 mi (0.6 km) downstream at various datums. Dec. 10, 1946, to Nov. 3, 1950, nonrecording gage at present site and datum.

REMARKS.--Records fair. Water is diverted from Cuyahoga River into canal at headgates at Brecksville, 6 mi (10 km) upstream. Water-quality data collected at this site 1965 to 1977.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 277 ft³/s (7.84 m³/s) Jan. 22, 1959; no flow June 4, 1947, July 2-7, 1950, July 16 to Aug. 19, 1959, Oct. 27 to Nov. 6, 1975.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	69	62	65	66	76	60	59	54	51	49	56
2	65	71	62	62	66	75	54	59	55	51	49	56
3	65	70	61	62	66	73	53	59	55	51	51	56
4	67	69	60	61	66	75	70	59	54	51	49	55
5	70	69	61	61	66	77	63	59	54	51	47	55
6	68	70	61	61	66	79	59	57	15	52	46	55
7	69	71	62	61	66	71	57	56	5.5	51	48	55
8	71	71	61	60	66	43	57	56	4.9	51	53	55
9	72	71	33	60	66	21	70	56	4.6	51	55	54
10	77	79	43	60	66	87	63	56	4.9	52	56	54
11	71	72	46	70	66	75	60	57	46	52	57	54
12	71	70	46	74	66	73	59	58	62	52	59	54
13	71	67	48	69	66	68	59	62	64	53	59	54
14	72	61	48	68	66	54	63	62	64	53	58	68
15	72	62	52	68	66	54	67	60	63	53	58	64
16	71	64	52	69	67	54	62	59	64	53	58	61
17	72	61	53	71	67	55	57	59	63	53	58	61
18	73	60	52	72	66	58	55	64	55	54	58	60
19	73	60	52	70	66	57	54	64	52	55	57	59
20	77	60	52	69	67	56	53	61	52	56	57	59
21	75	60	52	68	69	60	53	59	51	56	57	59
22	76	62	66	68	89	39	52	58	51	57	61	58
23	71	64	63	68	79	52	50	57	51	55	60	59
24	77	75	76	68	71	72	58	56	50	53	58	59
25	68	66	76	67	78	68	60	56	50	51	57	59
26	68	79	45	67	79	65	60	55	49	50	57	59
27	68	67	53	67	80	62	61	55	49	49	56	59
28	68	66	66	67	79	58	61	55	50	49	56	59
29	68	64	66	67	78	62	61	54	50	50	56	59
30	68	63	67	66	---	60	60	54	51	49	56	59
31	69	---	66	66	---	68	---	54	---	49	56	---
TOTAL	2188	2013	1763	2052	2025	1947	1771	1795	1393.9	1614	1712	1734
MEAN	70.6	67.1	56.9	66.2	69.8	62.8	59.0	57.9	46.5	52.1	55.2	57.8
MAX	77	79	76	74	89	87	70	64	64	57	61	68
MIN	65	60	33	60	66	21	50	54	4.6	49	46	54

CAL YR 1979 TOTAL 20369.0 MEAN 55.8 MAX 173 MIN 24
WTR YR 1980 TOTAL 22007.9 MEAN 60.1 MAX 89 MIN 4.6

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH
(National stream quality accounting network station)

LOCATION.--Lat 41°23'43", long 81°37'48, in T.6 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank 240 ft (73 m) downstream from bridge on Old Rockside Road, 0.8 mi (1.3 km) northeast of Independence, and 3.0 mi (4.8 km) downstream from Tinkers Creek.

DRAINAGE AREA.--707 mi² (1,831 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1903 to December 1905 (fragmentary), January to July 1906 (gage heights and discharge measurements only), September 1921 to May 1923, September 1927 to December 1935, March 1940 to current year.

REVISED RECORDS.--WSP 1307: 1922-23(M), 1928-30(M), 1933(M), 1940(M), 1947(M), 1950(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 583.57 ft (177.872 m) National Geodetic Vertical Datum of 1929. Sept. 21, 1903 to July 21, 1906, nonrecording gage at bridge 240 ft (73 m) upstream at present datum. Sept. 28, 1921 to May 30, 1923, nonrecording gage at bridge 240 ft (73 m) upstream at datum 2.42 ft (0.738 m) higher. Sept. 5, to Oct. 8, 1927, nonrecording gage, and Oct. 9, 1927, to Dec. 31, 1935, Mar. 5, 1940, to June 19, 1969, water-stage recorder, at site 100 ft (30 m) upstream at present datum.

REMARKS.--Records good. Natural flow of stream affected by diversion, storage reservoirs and power plants. Some diversion from the Tuscarawas River basin drainage into this basin at Portage Lakes (see REMARKS for station 03116000). Water diverted into Ohio Canal at Brecksville, 6 mi (10 km) upstream from station, bypasses station. These records do not include flow in canal except above about 15,000 ft/s (425 m/s), when channels merge; record of diversion published as Ohio Canal at Independence (see station 04207500).

AVERAGE DISCHARGE.--49 years (1921-22, 1927-35, 1940-80), 806 ft³/s (22.83 m³/s), not including flow in Ohio Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s (702 m³/s) Jan. 22, 1959, gage height, 22.41 ft (6.381 m), from rating curve extended above 17,000 ft³/s (481 m³/s) on basis of contracted-opening measurement of peak flow; minimum daily, 21 ft³/s (0.59 m³/s) Aug. 28, 1933; minimum combined daily discharge of river and canal, 55 ft³/s (1.56 m³/s) Aug. 28, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,120 ft³/s (258 m³/s) Dec. 25, gage height, 16.27 (4.959 m); minimum daily, 179 ft³/s (5.07 m³/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	578	386	1100	1530	407	683	2410	472	530	296	312	232
2	556	627	1030	1240	379	556	1860	455	907	260	966	311
3	560	457	931	1070	376	476	1610	443	793	248	2440	270
4	826	398	854	940	372	459	4260	427	564	227	1570	244
5	750	378	811	849	364	710	2560	399	480	343	1110	250
6	587	374	893	747	379	807	1840	403	1390	413	1040	216
7	778	448	1020	701	379	751	1530	387	1220	245	735	192
8	736	411	931	643	376	5020	1540	360	2110	283	700	188
9	1040	600	869	582	364	3090	3840	356	1490	249	799	275
10	1280	2180	774	526	368	2170	2880	346	1370	365	744	384
11	995	1220	750	2430	391	2020	2110	497	1080	301	923	240
12	1020	907	774	2650	376	1620	2060	956	997	381	1290	222
13	1000	811	830	1620	360	1300	2100	1400	916	441	733	273
14	1050	849	746	1300	364	1170	3610	1030	825	347	634	3080
15	902	931	677	1240	372	1010	4580	788	788	299	608	1180
16	821	1310	663	1250	407	944	3530	728	1280	360	540	859
17	854	965	645	1290	395	1250	2640	715	821	275	481	760
18	830	845	587	1240	368	1810	2360	1420	647	225	660	627
19	778	793	569	1070	399	1550	1990	1580	577	187	514	495
20	750	750	578	930	497	1320	1650	1080	612	179	539	415
21	704	713	551	821	706	4050	1350	906	509	186	1270	358
22	631	854	1850	765	4070	4700	1210	802	451	1560	2480	316
23	461	1000	1880	701	3860	3190	1020	710	368	899	1040	760
24	366	2080	3680	595	2510	2950	887	647	353	474	680	432
25	427	1440	6320	577	1740	3170	765	675	303	370	559	356
26	469	2580	7100	547	1500	2380	710	569	289	331	497	448
27	452	1720	4220	518	1300	1900	688	459	353	307	439	346
28	427	1520	3350	497	1120	1680	719	383	289	868	385	295
29	415	1350	2970	466	901	2690	621	322	379	597	340	283
30	398	1210	2420	423	---	2250	509	353	314	407	292	287
31	382	---	1880	423	---	3620	---	548	---	346	247	---
TOTAL	21823	30107	52253	30183	25430	61296	59479	20616	23005	12269	25567	14596
MEAN	704	1004	1666	974	876	1977	1983	665	767	396	825	487
MAX	1280	2580	7100	2650	4070	5020	4580	1580	2110	1560	2480	3080
MIN	366	374	551	423	360	459	509	322	289	179	247	188

CAL YR 1979 TOTAL 445671 MEAN 1221 MAX 13900 MIN 231
WTR YR 1980 TOTAL 376596 MEAN 1029 MAX 7100 MIN 179

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1948 to September 1949, October 1950 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1965 to current year.
pH: February 1973 to current year.
WATER TEMPERATURES: October 1948 to September 1949, October 1952 to current year.
DISSOLVED OXYGEN: July 1965 to current year.
SUSPENDED SEDIMENT DISCHARGE: Water years 1950-74, December 1976 to current year.

INSTRUMENTATION.--Alcohol-actuated thermograph October 1956 to June 1965, water-quality monitor since July 1965.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos Feb. 12, 1977; minimum, 149 micromhos Nov. 23, 1974.
pH: Maximum, 8.9 units Aug. 27, 28, 1976; minimum, 5.9 units Jan. 26, 1976.
WATER TEMPERATURES: Maximum, 31.0°C Aug. 18, 1949, July 21, 1980; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 14.5 mg/L Feb. 16, 1973; minimum, 0.0 mg/L Oct. 23, 1965, Feb. 10-12, June 23, July 26, 1966.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,800 mg/L Aug. 21, 1960; minimum daily mean, 1 mg/L Sept. 4, 10, 1955. Sept. 4, 10, 1955.
SEDIMENT LOADS: Maximum daily, 97,000 tons (88,000 tonnes) Sept. 14, 1979; minimum daily, 0.25 ton (0.23 tonne) Sept. 4, 1955.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,870 micromhos May 12; minimum, 357 micromhos Aug. 22, Sept. 14.
pH: Maximum, 8.0 units several days during year; minimum, 6.7 units April 19, May 13.
WATER TEMPERATURES: Maximum, 31.0°C July 21; minimum, 0.0°C Feb. 2-5, Mar. 1-3.
DISSOLVED OXYGEN: Maximum recorded, 12.8 mg/L Mar. 23; minimum recorded, 0.2 mg/L July 22.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,570 mg/L Mar. 8; minimum daily mean, 7 mg/L, May 8.
SEDIMENT LOADS: Maximum daily, 22,200 tons (20,100 tonnes) Mar. 8; minimum daily, 5.4 tons (4.9 tonnes) Sept. 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
03...	1130	542	780	7.7	19.0	6.0	6.1	65	31	14000	1500
NOV											
07...	1030	499	880	7.8	9.0	5.0	7.6	66	33	12000	2500
DEC											
12...	0930	741	700	7.8	8.0	20	9.1	76	33	45000	8000
JAN											
09...	1630	569	800	7.8	2.0	.60	10.5	76	61	70000	32000
FEB											
12...	1530	360	1030	7.5	3.0	1.5	11.8	87	73	200000	32000
MAR											
05...	1030	513	1050	7.6	3.5	3.0	9.8	74	31	40000	7100
APR											
15...	1330	3910	465	7.7	8.5	10	10.6	91	38	11000	3200
MAY											
08...	1130	364	828	7.8	15.0	1.3	12.5	120	15	1600	33
JUN											
05...	1330	472	760	7.6	19.0	1.0	6.3	67	32	10000	200
JUL											
09...	1130	245	1100	7.6	23.5	6.0	6.3	73	25	320	120
AUG											
04...	1130	1500	540	7.4	23.5	65	6.4	74	45	40000	6700
SEP											
09...	1030	224	970	7.9	22.0	.60	6.7	76	--	450	70

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
OCT 03...	220	100	66	14	61	5.2	120	85	100	.4	9.5
NOV 07...	250	110	73	17	79	6.1	140	87	110	.4	8.6
DEC 12...	210	92	62	14	48	4.4	120	86	79	.3	7.7
JAN 09...	210	80	61	14	64	4.7	130	80	98	.4	8.6
FEB 12...	240	91	70	16	89	4.7	150	110	150	.4	8.3
MAR 05...	230	110	67	15	96	4.6	120	91	190	.3	8.0
APR 15...	130	56	39	8.6	26	2.5	77	51	39	.2	5.0
MAY 08...	250	110	72	16	63	4.6	140	110	100	.4	3.7
JUN 05...	220	89	63	15	60	3.8	130	78	88	.3	7.3
JUL 09...	240	93	71	16	98	5.9	150	93	160	.5	8.7
AUG 04...	180	72	53	12	43	4.1	110	70	66	.4	8.6
SEP 09...	300	140	86	20	95	6.3	160	96	160	.5	12

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 03...	457	416	.43	1.2	3.9	17	.220	--	--	--
NOV 07...	504	475	.80	2.1	4.6	20	.480	2.7	230	1.65
DEC 12...	407	375	.00	3.5	6.3	28	1.000	11	--	--
JAN 09...	437	414	.90	4.9	6.1	27	.760	--	--	--
FEB 12...	554	545	1.5	5.4	7.5	33	.910	16	--	--
MAR 05...	587	549	.80	2.7	4.0	18	.460	8.9	920	--
APR 15...	238	221	.69	.88	1.7	7.6	.360	--	--	--
MAY 08...	522	461	.70	1.9	3.7	16	.390	8.0	19000	--
JUN 05...	454	402	1.2	1.6	3.8	17	.310	14	40000	--
JUL 09...	637	555	.00	3.3	5.6	25	.650	--	31000	--
AUG 04...	370	329	.77	.98	2.9	13	.370	14	3200	3.07
SEP 09...	619	586	.59	1.0	3.9	17	.380	7.5	4500	80.2

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

ANALYSES OF MINOR ELEMENTS

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BARIUM, DIS-SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
OCT 03...	1130	3	2	40	40	9	9	20	10
NOV 07...	1030	--	--	--	--	--	--	--	--
JAN 09...	1630	3	1	100	40	3	0	30	20
FEB 12...	1530	--	--	--	--	--	--	--	--
APR 15...	1330	3	1	<50	30	2	2	30	20
MAY 08...	1130	--	--	--	--	--	--	--	--
JUL 09...	1130	4	4	60	60	0	0	10	10
AUG 04...	1130	--	--	--	--	--	--	--	--

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)
OCT 03...	1	1	6	4	870	20	31	31	220
NOV 07...	--	--	--	--	--	--	--	--	--
JAN 09...	0	0	30	5	1700	80	14	0	220
FEB 12...	--	--	--	--	--	--	--	--	--
APR 15...	1	0	22	6	9900	110	24	1	220
MAY 08...	--	--	--	--	--	--	--	--	--
JUL 09...	0	0	4	0	630	30	1	0	150
AUG 04...	--	--	--	--	--	--	--	--	--

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
OCT 03...	180	<.5	<.5	0	0	0	0	20	9
NOV 07...	--	--	--	--	--	0	--	--	--
JAN 09...	200	.2	.2	0	0	3	0	80	40
FEB 12...	--	--	--	--	--	3	--	--	--
APR 15...	50	--	.1	0	0	0	0	80	20
MAY 08...	--	--	--	--	--	0	--	--	--
JUL 09...	100	.1	.1	0	0	1	0	20	20
AUG 04...	--	--	--	--	--	0	--	--	--

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

ANALYSES OF PESTICIDES

DATE	TIME	ALDRIN, TOTAL (UG/L)	CHLOR-DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DI-ELDRIN TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA-CHLOR, TOTAL (UG/L)
NOV 07...	1030	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 12...	1530	ND	ND	ND	ND	ND	--	ND	ND	--	ND

DATE	HEPTA-CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	METHYL TRI-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	TOX-APHENE, TOTAL (UG/L)	TOTAL TRI-THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
NOV 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB 12...	ND	ND	--	--	--	--	ND	--	--	--	--

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	990	792	1020	909	603	549	483	447	1040	948	852	819
2	912	816	972	804	639	576	525	477	1080	1000	840	816
3	828	762	861	738	706	645	582	540	1060	987	873	810
4	840	696	858	816	822	747	645	579	1020	945	921	825
5	900	741	888	825	741	726	720	633	1120	1030	1270	915
6	852	750	1070	897	738	717	900	723	1150	1030	1110	948
7	951	741	1040	867	759	708	924	882	1030	951	966	915
8	792	699	1110	927	768	693	903	837	984	918	909	534
9	885	606	1130	708	717	681	831	798	942	891	578	534
10	696	579	636	531	711	678	876	804	945	880	603	540
11	762	675	648	576	729	669	888	522	927	882	609	564
12	795	669	702	639	723	681	579	522	1040	903	585	546
13	714	663	705	669	738	693	570	537	1100	957	600	579
14	666	636	687	657	726	687	576	552	1080	1010	669	603
15	684	618	726	651	723	684	594	570	1030	942	822	684
16	714	672	648	597	789	687	609	567	1190	1020	810	681
17	690	606	654	597	789	765	654	609	1240	1120	---	---
18	642	603	735	654	990	759	621	591	1210	1090	---	---
19	645	612	789	687	942	873	612	588	1170	1090	---	---
20	660	618	702	663	942	882	609	591	1490	1160	---	---
21	651	612	687	627	921	888	630	597	1660	1490	---	---
22	663	609	705	648	918	882	717	621	1460	567	---	---
23	837	654	657	597	---	---	774	666	642	570	---	---
24	993	855	594	510	---	---	930	753	621	585	---	---
25	972	840	594	525	---	---	942	888	615	591	---	---
26	849	795	558	471	---	---	1100	939	711	618	---	---
27	876	801	576	507	---	---	1150	1010	813	720	---	---
28	987	867	570	552	423	408	1010	918	939	822	---	---
29	996	912	558	546	426	396	957	915	951	858	---	---
30	957	816	588	546	417	402	942	864	---	---	---	---
31	930	822	---	---	441	414	972	882	---	---	540	465
MONTH	996	579	1130	471	990	396	1150	447	1660	567	1270	465

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	579	543	1240	1090	1670	1400	867	798	918	831	1180	873
2	594	570	1310	1060	1630	861	906	852	1160	687	1170	834
3	606	585	1220	966	1450	1220	906	873	---	---	1050	855
4	588	438	1270	1160	1460	1280	933	861	---	---	1030	852
5	552	528	1330	984	1510	987	921	702	570	543	1180	900
6	582	558	1370	1220	1530	1220	834	744	576	513	1180	1070
7	600	585	1410	993	1210	1120	786	747	633	579	1190	987
8	621	579	1220	1140	1130	798	840	786	639	591	1020	951
9	576	405	1350	1160	942	759	1370	849	729	573	1080	876
10	534	489	1360	1250	972	648	1540	986	686	579	1060	921
11	567	537	1550	1330	1050	924	966	849	591	486	963	834
12	579	567	1870	1030	1070	627	903	613	510	489	1200	975
13	585	531	1690	1240	1120	1010	882	804	738	513	1260	879
14	642	438	1430	792	1220	996	855	786	729	663	777	357
15	786	483	1280	864	1340	1210	945	810	699	642	723	474
16	714	561	1280	879	1320	1180	969	768	1060	687	957	735
17	810	714	1360	1170	1200	720	834	783	1110	924	1050	834
18	861	765	1400	900	1190	774	873	837	891	621	843	777
19	900	816	1010	885	1350	1090	933	864	747	576	924	726
20	1070	870	1130	789	1530	1390	927	864	822	630	927	834
21	1160	1070	1230	1040	1510	780	984	864	830	384	939	813
22	1230	744	1330	1230	1470	1330	993	390	552	357	933	810
23	1350	798	1420	861	1490	891	711	552	616	615	975	693
24	1490	1210	1510	1350	1520	744	792	615	675	618	825	654
25	1520	981	1520	1230	885	813	1290	843	693	651	1300	873
26	1430	933	1520	1350	897	822	1010	816	729	639	1280	918
27	1320	981	1680	1480	903	846	825	792	816	726	1160	918
28	1340	915	1700	1260	894	750	816	789	---	---	969	867
29	1150	879	1660	1250	855	786	---	---	810	735	1320	903
30	1170	912	1720	1220	789	672	867	843	822	747	1390	1230
31	---	---	1700	1160	---	---	861	831	927	849	---	---
MONTH	1520	405	1870	789	1670	627	1540	390	1160	357	1390	357
YEAR	1870	357										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.7	7.6	7.8	7.7	8.0	7.9	---	---	7.6	7.6	7.6	7.5
2	7.8	7.6	7.8	7.7	7.9	7.9	---	---	7.6	7.5	7.6	7.5
3	7.7	7.6	7.8	7.7	7.9	7.8	---	---	7.6	7.5	7.6	7.5
4	7.7	7.6	7.8	7.7	7.9	7.9	---	---	7.6	7.6	7.6	7.5
5	7.7	7.6	7.8	7.7	7.9	7.9	---	---	7.6	7.5	7.6	7.5
6	7.7	7.7	7.8	7.7	8.0	7.9	---	---	7.6	7.5	7.6	7.5
7	7.8	7.7	7.8	7.7	8.0	7.9	---	---	7.6	7.6	7.8	7.6
8	7.8	7.6	7.8	7.7	8.0	7.9	---	---	7.6	7.5	7.6	7.5
9	7.8	7.7	7.8	7.7	8.0	7.9	---	---	7.6	7.5	7.5	7.4
10	7.8	7.6	7.9	7.6	7.9	7.9	---	---	7.7	7.5	7.6	7.5
11	7.8	7.8	7.9	7.9	7.9	7.8	---	---	7.7	7.6	7.6	7.5
12	7.8	7.7	7.9	7.8	8.0	7.8	---	---	7.6	7.5	7.6	7.5
13	7.8	7.8	7.9	7.8	8.0	7.9	---	---	7.6	7.5	7.6	7.5
14	7.8	7.7	7.9	7.8	8.0	7.9	---	---	7.6	7.6	7.6	7.6
15	7.8	7.8	7.9	7.8	8.0	7.9	---	---	7.6	7.6	7.6	7.5
16	7.9	7.7	8.0	7.8	7.9	7.9	---	---	7.7	7.6	7.6	7.5
17	7.8	7.7	7.9	7.8	7.9	7.8	---	---	7.7	7.6	7.7	7.6
18	7.8	7.6	7.9	7.7	7.9	7.8	---	---	7.6	7.6	7.7	7.6
19	7.7	7.6	7.9	7.8	7.9	7.8	---	---	7.7	7.5	7.7	7.6
20	7.7	7.6	8.0	7.8	7.9	7.8	---	---	7.6	7.5	7.8	7.6
21	7.7	7.6	8.0	7.8	7.9	7.8	7.6	7.5	7.7	7.5	7.7	7.6
22	7.7	7.6	7.9	7.8	7.9	7.8	7.6	7.5	7.7	7.4	7.6	7.6
23	7.7	7.7	7.9	7.8	---	---	7.6	7.5	7.5	7.2	7.6	7.5
24	7.8	7.7	8.0	7.8	---	---	7.6	7.5	7.6	7.5	7.6	7.5
25	7.8	7.7	7.9	7.9	---	---	7.6	---	7.6	7.5	7.6	7.5
26	7.8	7.7	7.9	7.8	---	---	7.6	---	7.6	7.5	7.6	7.5
27	7.8	7.7	7.9	7.9	---	---	7.6	---	7.6	7.5	7.6	7.5
28	7.8	7.7	7.9	7.9	7.8	7.7	7.6	---	7.6	7.5	7.6	7.5
29	7.8	7.7	8.0	7.9	7.7	7.5	7.6	7.5	7.6	7.5	7.7	7.6
30	7.8	7.6	7.9	7.9	7.7	7.6	7.6	7.5	---	---	7.6	7.6
31	7.7	7.6	---	---	7.8	7.6	7.6	7.6	---	---	7.6	7.6
MONTH	7.9	7.6	8.0	7.6	8.0	7.5	7.6	7.5	7.7	7.2	7.8	7.4

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.6	7.5	7.2	7.0	6.9	6.9	7.8	7.7	7.6	7.4	7.9	7.7
2	7.6	7.5	7.2	7.0	7.1	6.8	7.7	7.6	7.5	7.3	8.0	7.8
3	7.6	7.5	7.3	7.0	6.9	6.8	7.7	7.6	---	---	7.9	7.8
4	7.6	7.5	7.1	7.0	6.9	6.8	7.7	7.6	---	---	7.9	7.8
5	7.7	7.5	7.3	7.0	7.0	6.9	7.7	7.4	7.6	7.4	7.9	7.8
6	7.6	7.5	7.1	7.0	6.9	6.8	7.6	7.5	7.5	7.3	7.9	7.8
7	7.6	7.6	7.4	6.9	6.9	6.8	7.6	7.5	7.5	7.2	7.9	7.9
8	7.7	7.6	7.2	7.1	7.3	6.9	7.6	7.3	7.6	7.4	7.9	7.8
9	7.6	7.5	7.4	7.1	7.0	6.9	7.7	7.5	7.6	7.3	8.0	7.7
10	7.6	7.6	7.2	7.0	7.2	6.9	7.7	7.5	7.5	7.5	7.8	7.7
11	7.6	7.6	7.0	6.8	6.9	6.9	7.6	7.5	7.6	7.4	7.9	7.8
12	7.6	7.6	7.2	6.8	7.4	6.8	7.7	7.4	7.6	7.4	7.9	7.8
13	7.7	7.5	6.9	6.7	6.9	6.8	7.5	7.3	7.6	7.4	7.8	7.4
14	7.6	7.1	7.1	6.8	6.9	6.8	7.7	7.3	7.6	7.4	7.6	7.1
15	7.5	6.9	7.0	6.8	6.9	6.9	7.6	7.5	7.6	7.4	7.7	7.4
16	7.2	7.0	7.1	6.8	6.9	6.8	7.5	7.3	7.6	7.5	7.7	7.5
17	7.0	6.8	6.9	6.8	7.0	6.8	7.6	7.4	7.8	7.6	7.6	7.4
18	6.9	6.8	6.9	6.8	7.2	6.8	7.6	7.5	7.8	7.5	7.6	7.6
19	6.9	6.7	6.9	6.8	7.0	6.9	7.5	7.4	7.6	7.5	7.6	7.6
20	6.8	6.8	7.0	6.8	7.0	6.9	7.5	7.4	7.6	7.5	7.6	7.6
21	6.9	6.8	6.8	6.8	7.2	6.8	7.6	7.5	7.5	7.1	7.7	7.5
22	7.1	6.8	6.9	6.8	6.9	6.8	7.6	7.2	7.3	7.2	7.6	7.5
23	7.2	6.8	7.1	6.8	7.2	6.8	7.4	7.3	7.6	7.4	7.6	7.5
24	7.0	6.8	6.9	6.8	7.6	6.9	7.5	7.4	7.6	7.4	7.8	7.5
25	7.2	6.8	6.9	6.8	7.6	7.5	7.6	7.5	7.6	7.5	7.8	7.7
26	7.2	6.9	6.9	6.8	7.6	7.4	7.6	7.5	7.7	7.4	7.7	7.6
27	7.2	7.0	6.9	6.8	7.6	7.5	7.6	7.5	7.7	7.5	7.8	7.6
28	7.3	7.0	7.0	6.8	7.6	7.5	7.6	7.6	---	---	7.9	7.7
29	7.2	7.0	7.0	6.8	7.6	7.5	---	---	7.7	7.6	7.9	7.8
30	7.2	7.0	7.0	6.8	7.8	7.6	7.6	7.5	7.9	7.6	7.9	7.8
31	---	---	7.0	6.8	---	---	7.6	7.5	7.9	7.7	---	---
MONTH	7.7	6.7	7.4	6.7	7.8	6.8	7.8	7.2	7.9	7.1	8.0	7.1
YEAR	8.0	6.7										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	19.5	13.5	13.0	5.0	5.0	3.0	2.5	1.5	.5	1.0	.0
2	20.0	19.5	13.0	11.5	4.5	4.0	3.0	2.5	1.0	.0	1.0	.0
3	19.5	18.5	12.0	10.5	4.0	2.5	3.5	2.5	1.0	.0	2.0	.0
4	18.5	16.5	11.0	10.0	4.0	3.0	3.0	2.5	.5	.0	3.5	1.5
5	16.5	15.5	10.0	8.5	5.5	4.0	3.0	2.0	1.0	.0	3.5	2.0
6	15.5	14.5	10.0	9.5	6.0	5.5	2.5	1.5	2.5	1.0	3.5	2.5
7	14.5	12.5	10.0	8.5	5.5	5.0	2.5	1.5	3.0	2.5	4.5	3.0
8	13.5	12.5	8.5	8.0	5.5	4.0	2.0	1.5	3.0	2.0	2.0	1.5
9	13.0	12.0	9.0	8.5	4.0	3.5	2.0	1.5	3.5	2.0	3.0	2.0
10	13.0	11.5	10.0	9.0	5.0	3.5	2.0	1.0	3.0	2.0	4.0	2.5
11	12.0	11.0	9.5	7.5	7.0	4.5	3.0	2.0	3.5	2.0	3.5	2.5
12	13.0	11.5	8.0	7.0	8.0	7.0	2.5	1.0	3.0	1.5	3.0	1.5
13	12.5	10.0	8.0	7.0	7.0	5.5	1.5	1.0	2.5	1.0	3.0	2.0
14	11.5	10.0	7.5	7.5	5.5	4.5	3.5	1.5	3.0	2.0	3.5	3.0
15	12.0	10.0	7.5	7.0	4.5	3.5	3.5	3.0	3.5	3.0	5.0	3.0
16	12.5	11.5	7.0	6.5	5.0	3.5	4.0	3.5	2.5	2.0	6.0	4.0
17	14.0	12.5	7.5	5.5	3.5	2.0	5.0	4.0	2.5	1.5	7.0	6.0
18	15.0	13.5	8.5	7.0	2.0	1.0	5.0	4.0	2.5	.5	6.0	5.0
19	15.0	13.5	8.5	7.0	3.5	2.0	4.0	3.5	3.5	1.0	6.5	4.5
20	16.5	15.0	10.0	8.5	4.0	3.0	3.5	2.5	5.0	3.5	8.0	6.0
21	17.5	16.0	10.5	9.0	4.5	3.0	2.5	2.0	5.0	3.5	8.0	4.0
22	18.5	16.5	12.0	10.5	4.5	3.0	3.5	2.5	3.0	1.5	4.0	3.0
23	17.5	14.5	12.0	11.5	---	---	3.0	1.5	4.5	2.0	4.0	2.5
24	14.0	11.0	11.5	9.0	---	---	1.5	1.0	2.5	2.0	5.0	3.5
25	11.0	10.5	9.0	8.0	---	---	1.5	1.0	2.5	1.5	4.5	4.0
26	10.5	10.0	10.0	9.0	---	---	2.0	1.0	2.0	1.0	4.5	3.5
27	10.5	9.5	9.5	9.0	---	---	2.0	.5	1.5	1.0	6.5	4.0
28	11.5	10.0	9.0	7.5	3.0	3.0	2.5	1.5	2.5	1.0	6.5	5.5
29	12.5	11.0	7.5	6.0	3.0	2.5	2.0	1.0	1.5	1.0	6.5	6.0
30	11.5	10.0	6.0	5.0	3.0	2.5	1.5	.5	---	---	7.0	5.5
31	13.0	10.5	---	---	2.5	2.5	2.0	1.0	---	---	7.5	6.5
MONTH	21.0	9.5	13.5	5.0	8.0	1.0	5.0	.5	5.0	.0	8.0	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.5	7.0	15.5	13.5	20.0	18.5	23.5	21.0	27.0	11.5	28.0	25.0
2	9.0	7.5	16.5	14.0	20.0	18.5	25.5	22.5	26.5	23.0	27.0	25.0
3	9.5	7.5	18.0	14.5	19.5	19.0	26.0	22.5	---	---	26.0	24.0
4	9.0	7.5	18.5	16.0	19.5	19.0	25.0	22.5	---	---	25.0	23.0
5	9.0	6.5	19.0	17.0	20.0	18.5	25.0	23.0	26.5	25.5	25.5	23.0
6	10.0	7.5	18.5	17.0	19.5	18.0	25.5	22.5	27.5	24.5	25.0	22.5
7	10.0	8.5	17.5	16.0	19.0	18.5	24.5	22.0	29.0	26.0	24.0	22.0
8	11.5	9.5	16.5	14.0	19.5	19.0	25.5	22.5	29.0	27.0	24.5	21.0
9	11.0	10.0	14.5	13.0	19.0	17.5	24.5	22.0	29.0	26.5	23.5	21.5
10	10.5	9.0	15.5	13.0	17.5	17.0	26.0	22.0	26.5	26.0	22.5	20.5
11	10.5	8.5	16.5	15.0	17.0	16.0	27.0	24.0	26.5	25.5	22.0	19.5
12	10.5	9.5	16.5	15.5	18.0	16.5	26.0	24.0	26.0	25.0	22.5	19.5
13	10.0	8.5	16.5	15.5	19.0	17.5	26.0	23.0	26.5	24.5	23.5	21.0
14	9.5	8.0	17.0	16.0	19.0	18.5	27.0	23.5	27.0	25.0	22.5	19.5
15	9.5	8.0	16.0	15.0	19.0	18.5	28.0	25.0	27.0	25.5	22.5	21.0
16	8.5	7.0	17.0	15.0	18.5	18.0	28.5	27.0	25.5	23.5	21.0	20.0
17	9.0	8.0	16.5	15.5	19.0	17.5	29.0	26.5	24.0	21.5	20.5	19.5
18	10.0	9.0	15.5	15.5	20.5	18.0	28.0	25.5	23.0	20.5	20.5	18.5
19	11.5	10.0	16.0	15.5	21.0	19.0	29.0	25.5	25.5	22.5	21.0	18.5
20	12.5	11.0	16.5	16.0	18.5	18.0	30.5	26.5	25.5	23.5	22.0	19.5
21	13.0	12.0	17.0	16.0	20.5	18.0	31.0	28.0	26.0	23.5	24.0	21.0
22	14.0	12.5	17.5	16.5	19.0	18.5	28.0	25.5	24.0	23.5	25.0	23.0
23	15.0	14.0	19.0	17.5	21.0	18.5	26.5	24.0	24.5	24.0	23.5	21.0
24	14.5	14.0	19.0	17.5	24.0	19.0	26.5	24.0	25.5	23.0	20.5	19.0
25	15.0	13.0	19.5	18.0	25.5	22.5	26.5	24.0	25.5	23.0	19.0	18.0
26	14.5	12.5	18.5	18.0	26.5	23.0	27.0	24.5	25.5	23.0	18.5	17.0
27	13.5	12.5	18.0	17.5	27.0	25.0	26.0	24.0	26.0	24.0	17.5	15.5
28	13.5	11.5	18.0	17.0	27.0	24.5	24.0	24.0	---	---	17.5	15.5
29	14.0	12.0	19.5	18.0	26.0	24.5	---	---	27.5	26.5	18.0	15.5
30	15.0	12.0	19.5	18.0	24.0	23.0	27.0	25.5	27.5	26.0	19.0	16.0
31	---	---	21.5	18.5	---	---	25.5	24.5	27.0	25.5	---	---
MONTH	15.0	6.5	21.5	13.0	27.0	16.0	31.0	21.0	29.0	11.5	28.0	15.5
YEAR	31.0	.0										

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	7.4	6.2	10.8	10.5	12.0	11.5	---	---	11.9	11.6
2	6.5	6.0	7.5	5.8	11.2	10.6	11.9	10.2	---	---	11.8	11.5
3	6.3	5.7	8.3	6.2	11.5	10.9	11.8	11.3	---	---	11.6	11.2
4	7.2	5.7	8.5	7.1	11.5	10.6	11.6	9.8	---	---	11.2	10.4
5	7.0	6.2	9.1	7.3	10.8	10.2	11.6	11.3	12.7	12.1	11.0	10.3
6	7.5	6.6	8.5	7.1	10.3	10.0	11.6	11.1	12.2	11.6	10.9	10.4
7	8.5	6.8	8.1	7.0	10.5	9.8	11.7	11.1	11.8	10.9	11.1	10.5
8	8.1	7.3	8.1	7.3	10.8	10.1	11.6	10.6	11.0	9.3	11.7	11.2
9	9.1	7.7	8.0	7.1	11.0	10.5	11.5	10.4	---	---	11.5	11.3
10	9.2	8.1	9.2	7.3	11.0	10.4	11.5	10.6	---	---	11.3	10.7
11	9.0	8.5	9.6	8.9	10.6	9.8	11.0	11.0	---	---	11.2	10.6
12	8.7	7.6	9.7	9.2	9.9	9.1	12.6	11.7	---	---	11.4	11.1
13	9.3	8.4	9.4	8.9	10.2	9.3	12.4	12.2	10.5	9.6	11.0	10.8
14	9.6	8.7	9.6	8.9	10.5	10.0	12.3	11.7	9.9	9.4	10.8	10.5
15	9.6	9.3	10.0	9.3	10.6	10.3	11.8	11.4	9.9	8.6	10.8	10.5
16	9.3	7.7	10.2	9.7	10.5	10.0	11.7	11.4	9.6	8.9	10.6	10.3
17	8.5	7.5	10.4	9.8	11.0	10.4	11.6	11.0	10.0	9.2	10.2	9.8
18	8.5	7.5	9.9	9.6	11.3	10.8	11.6	11.0	10.3	9.5	12.0	9.6
19	7.6	6.9	9.7	9.3	11.0	10.0	11.6	11.1	10.0	8.7	12.1	11.6
20	7.4	6.6	9.5	8.7	10.6	9.9	11.8	11.4	8.9	6.6	11.7	11.1
21	7.2	6.5	9.6	8.2	10.8	10.0	11.9	11.6	9.0	7.8	11.9	10.6
22	7.1	6.1	8.6	7.5	11.2	10.0	11.9	10.8	10.2	8.9	12.6	11.7
23	6.4	5.9	8.6	7.6	---	---	11.3	11.0	10.7	6.2	12.8	12.5
24	7.3	6.4	9.4	8.7	---	---	11.6	11.1	10.9	10.3	12.5	11.9
25	8.1	6.9	9.9	9.4	---	---	11.6	11.2	10.8	10.6	12.3	11.6
26	8.5	7.4	9.8	8.8	---	---	11.5	11.0	11.0	10.6	12.4	12.1
27	8.6	7.5	9.6	9.2	---	---	11.6	11.1	10.9	10.6	12.2	11.5
28	8.4	7.2	9.9	9.1	12.2	11.5	11.6	10.8	11.9	10.4	11.7	11.3
29	8.5	6.9	10.5	9.9	12.0	10.9	11.4	10.8	11.9	11.4	11.5	11.0
30	8.5	7.1	10.8	10.3	11.6	9.3	11.4	10.8	---	---	11.4	11.2
31	8.1	6.7	---	---	12.1	9.4	10.8	9.8	---	---	11.2	10.7
MONTH	9.6	5.7	10.8	5.8	12.2	9.1	12.6	9.8	12.7	6.2	12.8	9.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.3	10.6			---	---	8.0	6.4	6.6	4.7	7.2	5.4
2	10.9	10.6			---	---	7.3	5.7	5.1	3.5	7.0	5.4
3	10.5	10.2			---	---	7.6	5.4	---	---	6.9	5.2
4	10.6	10.0			---	---	7.7	5.4	---	---	6.9	4.9
5	10.9	9.5			---	---	6.5	5.1	6.0	5.6	6.8	5.0
6	10.7	10.2			---	---	7.8	6.0	6.1	4.0	7.2	5.0
7	10.7	10.0			---	---	8.5	5.4	5.8	5.2	6.7	5.6
8	10.0	9.4			---	---	6.3	4.8	5.6	4.8	6.8	5.7
9	10.0	8.9			---	---	6.9	3.1	5.4	4.0	7.0	5.9
10	10.3	9.5			---	---	7.1	5.5	6.2	5.2	6.6	5.6
11	10.5	9.8			---	---	8.4	4.6	6.3	5.3	7.3	5.4
12	10.0	9.6			---	---	6.6	5.5	5.9	5.6	6.5	5.5
13	11.1	9.8			---	---	7.8	5.5	5.9	5.4	5.9	4.8
14	10.9	9.1			---	---	9.6	4.9	5.5	4.9	7.4	4.1
15	---	---			---	---	9.3	4.6	5.0	4.8	7.6	5.8
16	---	---			---	---	8.4	3.8	5.7	4.7	7.7	6.8
17	---	---			---	---	8.1	4.3	6.5	4.9	7.3	6.8
18	---	---			---	---	8.2	4.4	7.0	5.8	7.5	6.4
19	---	---			---	---	7.7	4.5	6.7	5.0	7.3	6.4
20	---	---			---	---	7.4	4.0	6.3	4.3	7.6	6.3
21	---	---			---	---	7.5	3.6	6.5	3.4	7.2	6.0
22	---	---			---	---	6.5	.2	5.7	4.1	7.0	5.4
23	---	---			---	---	6.9	5.3	6.3	6.2	6.6	4.8
24	---	---			---	---	8.0	6.3	6.4	5.7	7.9	5.5
25	---	---			7.0	6.5	6.6	5.9	6.6	5.7	7.1	6.3
26	---	---			6.4	5.1	8.5	5.3	6.7	5.8	7.2	6.0
27	---	---			6.4	5.0	7.8	5.1	6.5	5.4	8.2	5.9
28	---	---			6.1	5.1	6.4	6.3	---	---	8.1	6.4
29	---	---			6.1	5.4	---	---	6.6	5.2	8.2	6.6
30	---	---			8.7	6.0	6.6	6.4	6.9	5.1	8.1	6.7
31	---	---			---	---	6.5	5.6	7.0	4.9	---	---
MONTH	11.3	8.9			8.7	5.0	9.6	.2	7.0	3.4	8.2	4.1
YEAR	12.8	.2										

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	578	20	31	388	12	13	1100	41	122
2	556	18	27	627	37	63	1030	32	89
3	560	16	24	457	12	15	931	36	90
4	820	173	400	398	10	11	854	37	85
5	750	87	194	378	10	10	811	35	77
6	587	27	43	376	9	9.1	893	37	89
7	778	145	370	440	13	16	1020	65	179
8	736	68	152	411	12	13	931	33	83
9	1040	146	413	800	31	70	869	29	68
10	1200	186	610	2100	521	3410	774	27	56
11	995	45	121	1220	142	468	750	26	53
12	1020	37	102	907	58	142	774	27	56
13	1000	34	92	811	57	125	830	23	52
14	1050	29	82	849	47	108	746	19	38
15	982	25	66	931	76	206	677	30	55
16	821	20	44	1310	185	642	663	33	59
17	854	28	65	985	36	96	645	26	45
18	830	26	58	845	34	78	587	26	41
19	778	27	57	793	23	49	569	25	38
20	750	28	57	750	20	40	578	18	28
21	704	23	44	713	17	33	551	17	25
22	631	16	27	854	98	270	1850	848	4200
23	461	17	21	1000	98	272	1880	385	1950
24	366	17	17	2000	314	1660	3880	852	10200
25	427	13	15	1440	92	358	6320	1020	21400
26	469	15	19	2580	336	2340	7100	773	15700
27	452	15	18	1720	103	478	4220	265	3020
28	427	12	14	1520	63	259	3350	236	2130
29	415	8	9.0	1350	42	153	2970	166	1330
30	398	8	8.6	1210	38	124	2420	94	614
31	382	8	8.3	---	---	---	1880	77	391
TOTAL	21623	---	3491.9	30107	---	11846.1	52253	---	62363
		JANUARY			FEBRUARY			MARCH	
1	1530	86	355	407	20	22	683	63	116
2	1240	72	241	379	13	13	556	44	66
3	1070	66	191	376	12	12	476	27	35
4	940	58	147	372	15	15	459	36	45
5	849	52	119	384	15	15	710	98	235
6	747	53	107	379	17	17	807	110	240
7	701	38	72	379	24	25	751	48	97
8	643	35	61	376	23	23	5620	1570	22200
9	582	37	58	384	14	14	3090	518	4320
10	526	35	50	388	14	14	2170	170	996
11	2630	538	3820	391	18	19	2020	123	671
12	2650	510	3650	375	25	25	1620	113	494
13	1620	130	569	380	25	26	1300	98	344
14	1300	94	330	364	20	20	1170	67	212
15	1240	78	261	372	35	35	1010	63	172
16	1250	67	226	407	35	38	944	57	145
17	1290	75	261	385	22	23	1250	153	517
18	1240	71	238	368	21	21	1810	195	953
19	1070	48	139	399	25	27	1550	67	280
20	930	39	98	407	28	30	1320	52	185
21	821	37	82	706	126	241	4050	1170	10100
22	765	31	64	4070	718	8340	4700	660	8340
23	701	25	47	3080	653	5430	3190	240	2070
24	595	24	39	2510	183	1240	2950	170	1350
25	577	21	33	1740	124	583	3170	160	1370
26	547	27	40	1500	102	413	2380	130	835
27	518	31	43	1300	77	270	1900	118	605
28	497	28	38	1120	68	206	1680	125	567
29	468	22	28	901	66	161	2040	190	1050
30	423	24	27	---	---	---	2250	198	1200
31	423	22	25	---	---	---	3620	570	5570
TOTAL	30163	---	13239	25400	---	16923	61296	---	72420

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	2410	165	1070	472	18	23	530	32	46
2	1860	90	452	455	12	15	907	70	171
3	1610	90	391	443	12	14	793	55	118
4	4260	845	9760	427	11	13	564	22	34
5	2580	175	1220	399	9	9.7	480	15	19
6	1840	95	472	403	10	11	1390	475	2040
7	1530	96	397	387	11	11	1220	179	605
8	1540	75	312	360	7	6.8	2110	414	2630
9	3840	641	6780	356	13	12	1490	152	643
10	2880	220	1710	346	10	9.3	1370	101	407
11	2110	103	587	497	37	50	1080	45	131
12	2080	87	489	956	210	706	997	31	83
13	2100	72	408	1400	315	1230	916	21	52
14	3610	555	7150	1030	80	222	825	33	74
15	4580	758	10700	788	41	87	788	38	81
16	3530	198	1890	728	35	69	1280	317	1160
17	2640	139	991	715	42	81	821	40	89
18	2360	106	675	1420	287	1120	647	23	40
19	1990	85	457	1580	129	563	577	25	39
20	1650	75	334	1080	50	146	612	33	55
21	1350	73	266	906	~7	66	509	13	18
22	1210	63	206	802	40	87	451	9	11
23	1020	58	160	710	30	58	368	10	9.9
24	887	47	113	647	35	61	353	12	11
25	765	41	85	675	47	86	303	22	18
26	710	33	63	569	29	45	289	13	10
27	688	27	50	459	21	26	353	32	30
28	719	24	47	383	17	18	289	15	12
29	621	45	75	322	16	14	379	17	17
30	509	28	38	353	17	16	314	26	22
31	---	---	---	548	45	67	---	---	---
TOTAL	59479	---	47348	20616	---	4942.8	23005	---	8675.9
		JULY			AUGUST			SEPTEMBER	
1	296	15	12	312	19	16	232	15	9.4
2	260	11	7.7	966	250	1110	311	94	75
3	248	11	7.4	2440	647	4340	270	27	20
4	227	10	6.1	1570	266	1210	244	21	14
5	343	175	214	1110	62	186	250	22	15
6	413	137	177	1040	313	940	216	17	9.9
7	245	17	11	735	42	83	192	13	6.7
8	283	16	12	700	48	91	188	18	9.1
9	249	14	9.4	799	47	101	275	31	23
10	365	29	29	744	47	94	384	42	44
11	301	12	9.8	923	169	445	240	13	8.4
12	381	15	15	1290	543	1880	222	9	5.4
13	441	18	21	733	68	135	273	12	8.8
14	347	15	14	634	38	65	3080	907	8580
15	299	11	8.9	608	32	53	1180	150	478
16	360	51	58	540	31	45	859	78	181
17	275	32	24	481	23	30	760	59	121
18	225	14	8.5	660	44	78	627	40	68
19	187	12	6.1	514	29	40	495	27	36
20	179	12	5.8	539	120	185	415	18	20
21	186	20	10	1270	694	2530	358	13	13
22	1560	528	2520	2480	835	6470	318	19	16
23	899	145	352	1040	135	379	760	130	276
24	474	39	50	680	68	125	432	36	42
25	370	32	32	559	43	65	358	21	20
26	331	20	18	497	42	56	448	36	44
27	307	22	18	439	32	38	346	18	17
28	868	156	376	385	32	33	295	12	9.6
29	597	58	93	340	27	25	283	9	6.9
30	407	31	34	292	21	17	287	12	9.3
31	346	22	21	247	18	12	---	---	---
TOTAL	12269	---	4188.7	25567	---	20877	14598	---	10186.5
YEAR	376596		276493.9						

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
MAR 21...	1645	6100	1930	31800	28	39	53
AUG 12...	0735	1610	710	3090	29	42	61

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
MAR 21...	71	87	90	94	98	100	--
AUG 12...	83	92	97	98	98	99	100

SUSPENDED SEDIMENT DISCHARGE

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 03...	1130	542	19.0	14	20
NOV 07...	1030	499	9.0	13	18
DEC 12...	0930	741	8.0	34	68
JAN 09...	1630	569	2.0	38	56
FEB 12...	1530	360	3.0	25	24
MAR 05...	1030	513	3.5	45	62
APR 15...	1330	3910	8.5	359	3790
MAY 08...	1130	364	15.0	6	5.9
JUN 05...	1330	472	19.0	12	15
JUL 09...	1130	245	23.5	13	8.6
AUG 04...	1130	1500	23.5	180	729
SEP 09...	1030	224	22.0	18	11

04208502 BIG CREEK AT CLEVELAND, OH

LOCATION.--Lat 41°27'01", long 81°43'18", Cuyahoga County, Hydrologic Unit 04110002, on right bank 8 ft (2 m) downstream from footbridge in Brookside Park, 0.2 mi (0.3 km) upstream from bridge on Fulton Road and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--35.3 mi² (91.4 km²).

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 620.7 ft (189.19 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except those for periods of no gage-height record, Feb. 22 to Apr. 24, which are poor. Flow slightly regulated by industry upstream from station. Water-quality data collected at this site 1972 to 1977.

AVERAGE DISCHARGE.--8 years, 51.7 ft³/s (1.464 m³/s), 19.89 in/yr (505 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft³/s (258 m³/s) Aug. 24, 1975, gage height, 16.20 ft (4.938 m) (from floodmarks), from rating curve extended above 500 ft³/s (14.2 m³/s) on basis of slope-area measurements of peak flow; minimum daily, 2.3 ft³/s (0.065 m³/s) Sept. 16-17, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 1,200 ft³/s (34.0 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1245	*2050	58.1	*10.31	3.142	Sept. 14	0545	2040	57.8	10.28	3.133
Aug. 2	1815	1870	53.0	9.80	2.987						

Minimum daily discharge, 9.8 ft³/s (0.28 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	44	15	25	15	34	150	19	48	11	19	22
2	18	45	15	24	14	30	110	19	88	11	390	65
3	37	17	12	23	14	27	80	18	34	11	170	17
4	120	13	12	21	14	26	280	18	18	10	44	36
5	33	15	13	23	14	65	170	18	16	62	62	21
6	18	15	28	19	14	60	100	19	170	19	35	18
7	93	43	27	21	14	130	70	17	129	12	21	16
8	29	17	18	17	13	350	120	19	73	13	25	15
9	83	88	12	17	13	260	260	20	106	21	39	54
10	39	95	12	17	13	170	200	19	57	16	93	28
11	23	27	11	215	13	120	130	51	23	12	88	14
12	29	21	33	56	13	70	96	90	19	79	77	15
13	26	19	21	30	13	48	100	191	18	21	24	133
14	33	21	15	29	13	43	260	53	17	13	24	372
15	19	43	13	26	14	40	200	23	57	13	25	44
16	16	55	13	23	17	54	150	20	41	62	19	25
17	15	25	13	27	15	90	100	113	19	21	31	60
18	13	21	12	24	17	140	76	207	17	15	42	26
19	11	19	13	19	27	100	54	111	57	14	18	21
20	13	21	13	18	41	70	37	39	47	12	61	19
21	14	17	12	18	77	150	29	29	16	36	177	19
22	13	63	177	19	350	340	25	21	16	88	76	35
23	15	80	73	18	290	250	23	17	16	77	25	106
24	15	174	314	21	220	190	22	18	24	18	22	17
25	25	43	770	20	140	140	21	16	16	15	22	17
26	21	129	191	18	92	100	21	15	16	16	21	25
27	14	28	67	17	62	80	30	16	19	120	18	13
28	14	33	47	16	49	76	28	17	14	172	18	12
29	12	19	33	15	43	150	22	21	14	106	20	11
30	12	17	31	15	---	130	20	40	12	23	26	12
31	9.8	---	28	15	---	210	---	56	---	19	26	---
TOTAL	851.8	1267	2064	866	1644	3743	2984	1350	1217	1138	1758	1288
MEAN	27.5	42.2	66.6	27.9	56.7	121	99.5	43.5	40.6	36.7	56.7	42.9
MAX	120	174	770	215	350	350	280	207	170	172	390	372
MIN	9.8	13	11	15	13	26	20	15	12	10	18	11
CFSM	.78	1.20	1.89	.79	1.61	3.43	2.82	1.23	1.15	1.04	1.61	1.22
IN.	.90	1.34	2.18	.91	1.73	3.94	3.14	1.42	1.28	1.20	1.85	1.36

CAL YR 1979 TOTAL 19023.4 MEAN 52.1 MAX 853 MIN 8.8 CFSM 1.48 IN 20.05
WTR YR 1980 TOTAL 20170.8 MEAN 55.1 MAX 770 MIN 9.8 CFSM 1.56 IN 21.26

04208503 CUYAHOGA RIVER AT LOWER HARVARD BRIDGE IN CLEVELAND, OH

LOCATION.--Lat 41°26'51", long 81°41'05", Cuyahoga County, Hydrologic Unit 04110002, at bridge on Harvard Avenue in Cleveland and 0.2 mi (0.3 km) downstream from Big Creek.

DRAINAGE AREA.--786 mi^2 (2,036 km).

PERIOD OF RECORD.--October 1977 to September 1980

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
APR									
09...	1030	5600	439	7.6	142	3.7	361	.49	5460
09...	1100	5300	451	7.7	133	3.6	315	.43	4510
09...	1230	5300	464	7.7	127	3.7	271	.37	3880
09...	1300	5120	454	7.9	112	3.6	278	.38	3840
09...	1400	4900	472	7.9	119	3.8	274	.37	3630
09...	1430	4700	461	7.6	155	3.5	276	.38	3500
09...	1630	4540	479	7.8	74	3.5	288	.39	3530
09...	1830	4100	497	7.1	125	3.7	275	.37	3040
10...	1100	3870	511	7.9	57	4.0	276	.38	2880
JUN									
06...	1030	3260	--	--	247	6.5	466	.63	4100
06...	1100	3280	--	--	278	6.3	421	.57	3730
06...	1130	3330	--	--	266	6.4	466	.63	4190
06...	1200	2940	--	--	373	6.3	459	.62	3640
06...	1230	2860	--	--	285	6.8	466	.63	3600
06...	1300	3060	--	--	292	6.7	514	.70	4250
06...	1330	2860	--	--	273	6.7	489	.67	3780
JUL									
28...	1145	2080	717	7.4	--	7.2	358	.49	2010
28...	1245	1950	716	7.1	--	7.3	344	.47	1810
28...	1445	1870	696	7.0	--	7.2	345	.47	1740
28...	1645	2010	639	6.9	--	7.3	336	.46	1820
28...	2100	1870	572	6.9	--	6.7	337	.46	1700

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)
APR								
09...	755	1.6	.00	3.4	3.4	5.1	23	1.016
09...	717	1.7	.02	3.4	3.4	5.2	23	1.010
09...	569	1.7	.00	3.1	3.0	4.8	21	.861
09...	554	1.7	.01	2.9	2.8	4.7	21	.867
09...	448	1.8	.07	2.7	2.8	4.7	21	.722
09...	442	1.7	.00	2.8	2.7	4.6	20	.739
09...	350	1.8	.04	2.4	2.4	4.3	19	.626
09...	285	1.9	.00	2.4	2.4	4.4	19	.571
10...	185	2.0	.01	2.2	2.2	4.2	19	.423
JUN								
06...	509	3.6	.00	7.5	7.4	11	49	1.614
06...	489	3.3	.08	7.4	7.4	11	48	1.601
06...	394	2.5	.00	6.8	6.8	9.4	41	1.516
06...	332	2.4	.00	7.4	7.4	9.9	44	2.000
06...	292	2.2	.01	6.1	6.1	8.4	37	1.630
06...	324	3.0	.01	7.1	7.0	10	45	1.784
06...	430	3.2	.00	6.6	6.6	9.8	44	1.755
JUL								
28...	170	3.5	.03	1.4	1.4	5.0	22	.686
28...	202	3.0	.04	2.0	2.0	5.0	22	1.086
28...	284	3.3	.07	1.9	1.9	5.3	24	1.120
28...	200	3.0	.03	1.1	1.1	4.2	19	.920
28...	134	3.4	.03	4.0	4.0	7.5	33	.694

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH

LOCATION.--Lat 41°29'17", long 81°41'07", in T.7 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank just upstream from bridge on West Third Street in Cleveland, 3.0 mi (4.8 km) upstream from mouth, and 1.2 mi (1.9 km) downstream from turning basin.

DRAINAGE AREA.--798 mi² (2,067 km²).

PERIOD OF RECORD.--November 1966 to current year.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: November 1966 to current year.
pH: November 1966 to current year.
WATER TEMPERATURES: November 1966 to current year.
DISSOLVED OXYGEN: November 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. No discharge records available.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 3,000 micromhos July 16, 17, 1977; minimum, 318 micromhos July 12, 1976.
pH: Maximum, 9.3 units Sept. 14, 1969; minimum, 4.3 units May 16, 1969.
WATER TEMPERATURES: Maximum, 35.0°C July 24, 1967; minimum, 1.0°C Jan. 1, 1969.
DISSOLVED OXYGEN: Maximum, 15.0 mg/L on several days during 1968, 1970; minimum, 0.0 mg/L on many days during 1967, 1968, 1971 to 1974, 1977 to 1980.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,780 micromhos Feb. 22; minimum, 453 micromhos Sept. 14.
pH: Maximum, 7.8 units Dec. 26; minimum, 6.8 units May 31, June 26, 27.
WATER TEMPERATURES: Maximum, 31.0°C July 20, 21, 22; minimum, 3.5°C Feb. 23, Mar. 8.
DISSOLVED OXYGEN: Maximum, 11.1 mg/L Mar. 23; minimum, 0.0 mg/L on several days during year.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	837	786	1020	975	744	729	630	594	1040	1030	1190	1130
2	969	840	1020	879	783	738	657	633	1110	1040	1130	1070
3	996	951	933	876	846	783	717	660	1210	1120	1070	1010
4	951	789	960	927	936	837	792	717	1210	1200	1030	981
5	816	735	972	927	930	906	873	789	1160	1130	1310	1020
6	924	825	981	960	915	879	1070	876	1280	1130	1510	1240
7	918	816	1010	960	915	864	1110	1020	1280	1270	1230	1130
8	855	744	1020	954	888	864	1180	1080	1280	1200	1100	684
9	876	840	1080	951	900	852	1170	1080	1190	1120	702	690
10	876	696	960	651	873	834	1090	1010	1110	1070	732	696
11	834	726	741	666	855	831	1130	762	1070	1050	771	732
12	876	807	780	741	864	837	753	657	1050	1040	747	717
13	876	771	852	777	882	846	723	708	1070	1030	753	723
14	837	732	840	828	876	849	714	690	1200	1080	783	753
15	795	726	828	807	867	843	738	711	1200	1190	870	786
16	816	726	843	723	876	849	741	720	1180	1160	945	879
17	849	774	762	723	894	852	783	720	1400	1180	987	843
18	837	795	786	756	972	894	789	753	1440	1390	1080	960
19	816	726	843	783	1060	975	759	744	1400	1340	1080	879
20	804	717	870	825	1110	1060	759	744	1530	1340	879	828
21	819	720	849	822	1140	1100	762	744	1740	1550	852	699
22	816	750	828	792	1120	843	789	759	1780	792	690	645
23	813	789	792	738	822	786	852	786	804	726	648	618
24	834	804	738	606	795	588	960	843	804	762	681	639
25	951	837	714	642	633	492	1110	969	768	753	678	621
26	1010	954	714	579	570	510	1190	1120	846	771	636	618
27	999	960	699	603	591	561	1240	1200	1040	855	672	633
28	978	954	729	699	585	576	1290	1240	1160	1050	702	675
29	969	954	708	696	582	570	1280	1110	1200	1130	720	666
30	1030	969	729	705	576	567	1100	1080	---	---	666	657
31	1030	1010	---	---	594	576	1080	1030	---	---	693	576
MONTH	1030	696	1080	579	1140	492	1290	594	1780	726	1510	576

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	645	588	900	873	933	879	927	909	900	861	867	855
2	678	642	945	900	882	774	906	888	909	825	885	861
3	690	669	984	930	783	750	924	897	---	---	888	876
4	675	540	969	951	783	732	942	927	---	---	900	885
5	627	573	960	933	840	783	945	906	---	---	969	897
6	660	627	942	933	861	690	909	798	684	678	966	930
7	678	657	969	939	735	609	804	771	696	675	975	927
8	696	681	969	960	636	573	861	804	---	---	1020	978
9	645	510	993	963	660	591	891	864	---	---	1030	957
10	588	561	1030	993	672	636	900	879	---	---	960	885
11	633	591	1080	1040	741	663	978	891	726	687	909	867
12	666	630	1050	888	732	717	1140	984	690	624	975	909
13	663	624	873	660	732	711	978	873	636	621	975	813
14	657	520	744	663	726	711	894	840	756	639	756	453
15	591	513	813	744	741	714	879	864	819	759	696	573
16	606	579	816	792	732	675	903	879	819	792	813	705
17	615	579	822	804	681	651	855	825	879	792	927	816
18	615	594	807	615	726	675	855	816	960	891	---	---
19	615	597	648	579	846	729	882	816	933	846	915	906
20	633	615	711	648	909	852	912	885	843	759	936	909
21	663	633	753	711	903	849	939	909	816	591	942	933
22	696	666	795	750	903	852	939	600	600	534	942	918
23	720	696	846	798	858	852	684	594	714	582	924	756
24	777	720	918	819	873	861	729	687	753	723	831	747
25	879	786	975	930	882	876	783	729	768	747	897	843
26	873	858	951	906	939	888	918	786	792	765	984	870
27	855	831	942	906	957	930	996	930	789	780	1050	987
28	855	831	984	918	957	942	924	732	840	789	1040	1020
29	864	816	1040	987	960	954	744	663	861	846	1040	1010
30	873	852	1040	1020	954	924	789	663	861	852	1010	969
31	---	---	1020	930	---	---	870	771	867	855	---	---
MONTH	879	510	1080	579	960	573	1140	594	960	534	1050	453
YEAR	1780	453										

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.3	7.2	7.4	7.3	7.6	7.5	---	---	7.4	7.3	7.5	7.3
2	7.3	7.3	7.4	7.4	7.6	7.5	---	---	7.3	7.2	7.5	7.3
3	7.4	7.3	7.5	7.4	7.7	7.5	---	---	7.4	7.3	7.4	7.2
4	7.4	7.3	7.5	7.4	7.7	7.5	---	---	7.3	7.3	7.3	7.2
5	7.4	7.2	7.5	7.2	7.7	7.5	7.3	7.1	7.3	7.2	7.3	7.2
6	7.4	7.3	7.4	7.4	7.6	7.6	7.4	7.2	7.4	7.3	7.3	7.2
7	7.6	7.4	7.5	7.4	7.7	7.5	7.3	7.2	7.4	7.3	7.3	7.2
8	7.5	7.4	7.5	7.3	7.7	7.6	7.4	7.3	7.3	7.1	7.4	7.3
9	7.5	7.4	7.5	7.4	7.7	7.5	7.3	7.1	7.3	7.2	7.3	7.2
10	7.6	7.4	7.4	7.3	7.6	7.5	7.3	7.1	7.3	7.2	7.4	7.2
11	7.6	7.5	7.6	7.3	7.6	7.5	7.3	7.1	7.3	7.1	7.4	7.3
12	7.6	7.5	7.6	7.5	7.6	7.5	7.3	7.2	7.3	7.2	7.5	7.3
13	7.6	7.5	7.6	7.5	7.6	7.4	7.4	7.2	7.3	7.2	7.4	7.3
14	7.6	7.5	7.6	7.5	7.6	7.5	7.3	7.2	7.3	7.1	7.4	7.2
15	7.6	7.4	7.6	7.4	7.6	7.5	7.3	7.2	7.3	7.2	7.4	7.3
16	7.5	7.5	7.7	7.4	7.6	7.5	7.3	7.1	7.4	7.3	7.4	7.0
17	7.5	7.4	7.5	7.4	7.7	7.6	7.3	7.1	7.4	7.2	7.2	7.1
18	7.5	7.3	7.5	7.3	7.7	7.6	7.2	7.2	7.4	7.2	7.4	7.2
19	7.4	7.3	7.5	7.3	7.7	7.6	7.3	7.1	7.4	7.2	7.4	7.2
20	7.3	7.2	7.5	7.4	7.7	7.6	7.3	7.2	7.2	7.2	7.3	7.2
21	7.3	7.2	7.5	7.3	7.7	7.5	7.3	7.1	7.3	7.2	7.6	7.2
22	7.4	7.3	7.4	7.3	7.6	7.4	7.2	7.2	7.3	7.2	7.6	7.4
23	7.4	7.4	7.5	7.2	7.6	7.5	7.3	7.2	7.4	7.2	7.4	7.3
24	7.4	7.4	7.5	7.3	7.6	7.4	7.3	7.2	7.4	7.3	7.5	7.2
25	7.5	7.4	7.5	7.4	7.7	7.5	7.3	7.2	7.6	7.4	7.4	7.3
26	7.5	7.4	7.5	7.4	7.8	7.6	7.3	7.2	7.6	7.4	7.4	7.3
27	7.5	7.4	7.6	7.4	---	---	7.3	7.2	7.5	7.4	7.4	7.2
28	7.4	7.4	7.6	7.5	---	---	7.3	7.2	7.5	7.3	7.3	7.1
29	7.4	7.3	7.7	7.5	---	---	7.3	7.3	7.5	7.4	7.4	7.2
30	7.4	7.4	7.7	7.6	---	---	7.3	7.2	---	---	7.4	7.3
31	7.4	7.3	---	---	---	---	7.4	7.3	---	---	7.5	7.3
MONTH	7.6	7.2	7.7	7.2	7.8	7.4	7.4	7.1	7.6	7.1	7.6	7.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.4	7.2	7.2	7.1	7.0	6.9	7.1	7.0	7.2	7.1	7.4	7.2
2	7.8	7.2	7.2	7.1	7.0	6.9	7.1	7.1	7.3	7.2	7.5	7.3
3	7.3	7.1	7.2	7.0	7.1	7.0	7.1	7.1	---	---	7.5	7.3
4	7.4	7.2	7.2	7.0	7.0	6.9	7.1	7.0	---	---	7.5	7.3
5	7.4	7.3	7.1	6.9	7.1	7.0	7.1	7.0	---	---	7.5	7.4
6	7.3	7.2	7.1	7.0	7.1	6.9	7.2	7.1	7.4	7.3	7.5	7.4
7	7.3	7.2	7.1	7.0	7.2	7.0	7.2	7.0	7.3	7.1	7.6	7.4
8	7.3	7.2	7.1	7.0	7.2	7.0	7.1	7.0	---	---	7.6	7.4
9	7.3	7.2	7.1	7.0	7.4	7.1	7.2	7.1	---	---	7.6	7.5
10	7.4	7.3	7.1	7.0	7.4	7.2	7.2	7.0	---	---	7.6	7.5
11	7.5	7.3	7.2	7.0	7.4	7.2	7.2	7.1	7.3	7.1	7.6	7.4
12	7.4	7.3	7.2	7.1	7.4	7.2	7.2	7.1	7.3	7.2	7.6	7.4
13	7.5	7.4	7.1	7.0	7.3	7.2	7.2	7.1	7.4	7.1	7.6	7.4
14	7.7	7.4	7.2	7.0	7.2	7.0	7.3	7.1	7.3	7.2	7.8	7.6
15	7.5	7.4	7.2	7.1	7.2	7.1	7.2	7.1	7.3	7.2	7.6	7.5
16	7.6	7.5	7.3	7.1	7.3	7.2	7.2	7.1	7.4	7.2	7.7	7.5
17	7.5	7.3	7.2	7.1	7.3	7.1	7.1	7.1	7.4	7.4	7.7	7.7
18	7.4	7.2	7.2	7.1	7.2	7.1	7.1	7.0	7.5	7.3	---	---
19	7.3	7.2	7.2	7.1	7.2	7.1	7.1	7.0	7.5	7.3	7.6	7.5
20	7.3	7.1	7.3	7.2	7.2	7.1	7.1	6.9	7.4	7.3	7.7	7.4
21	7.3	7.2	7.3	7.1	7.1	7.0	7.1	6.9	7.4	7.1	7.6	7.3
22	7.3	7.1	7.3	7.1	7.2	7.0	7.3	7.1	7.5	7.4	7.6	7.4
23	7.2	7.1	7.2	7.0	7.1	7.0	7.2	7.1	7.5	7.4	7.6	7.5
24	7.2	7.1	7.1	7.0	7.1	7.0	7.2	7.0	7.6	7.3	7.6	7.5
25	7.2	7.2	7.1	7.0	7.1	7.0	7.2	7.0	7.5	7.3	7.6	7.5
26	7.2	7.1	7.1	7.0	7.0	6.8	7.2	7.1	7.6	7.3	7.6	7.5
27	7.3	7.2	7.1	7.0	6.9	6.8	7.2	7.1	7.6	7.4	7.6	7.5
28	7.3	7.2	7.1	7.0	7.0	6.9	7.3	7.1	7.5	7.3	7.6	7.5
29	7.3	7.2	7.1	7.0	7.0	6.9	7.2	7.1	7.5	7.3	7.6	7.2
30	7.3	7.2	7.1	6.9	7.1	7.0	7.2	7.1	7.4	7.3	7.4	7.2
31	---	---	7.0	6.8	---	---	7.2	7.1	7.4	7.3	---	---
MONTH	7.7	7.1	7.3	6.8	7.4	6.8	7.3	6.9	7.6	7.1	7.8	7.2
YEAR	7.8	6.8										

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.5	23.5	18.5	18.0	9.0	8.5	6.0	5.5	6.5	6.5	5.0	4.5
2	24.5	24.0	19.0	17.0	8.5	8.0	6.0	6.0	7.0	6.5	5.0	4.0
3	24.0	23.5	16.5	16.0	8.0	7.5	6.5	6.0	6.5	6.5	5.5	4.5
4	23.5	20.0	16.5	16.5	8.0	7.0	7.0	6.5	6.5	6.5	7.0	5.0
5	20.0	19.0	16.5	16.0	9.0	7.5	7.0	6.5	6.5	6.0	8.0	6.5
6	20.0	19.0	16.5	16.0	10.0	9.0	7.0	6.5	7.0	6.5	7.5	6.0
7	19.5	16.5	16.0	15.5	10.0	9.0	7.0	6.5	7.5	7.0	8.0	6.5
8	16.5	16.0	15.5	15.0	9.5	9.0	6.5	6.5	8.5	7.5	7.5	3.5
9	17.5	16.5	15.0	13.5	9.0	8.5	7.0	6.5	8.5	8.0	5.0	4.0
10	16.5	15.0	13.5	11.5	8.5	8.0	7.5	7.0	8.5	8.0	6.0	5.0
11	16.0	15.0	12.5	11.5	10.0	8.5	8.0	5.0	8.5	8.0	6.5	5.0
12	15.5	15.0	12.0	11.5	11.5	10.0	5.0	4.0	8.0	7.5	5.0	4.5
13	16.0	15.0	12.0	11.5	11.5	10.5	4.0	4.0	8.0	7.5	5.5	5.0
14	15.0	14.0	12.0	11.5	10.5	9.5	5.5	4.0	8.5	8.0	6.0	5.5
15	15.0	14.0	12.0	11.5	9.5	9.5	6.5	5.5	8.5	8.0	7.0	6.0
16	16.0	15.0	11.0	10.0	9.5	8.5	7.0	6.5	8.5	8.0	8.5	6.5
17	17.0	16.0	11.0	10.0	9.0	8.0	8.0	7.0	8.0	7.5	9.5	8.0
18	18.5	17.0	12.0	10.5	8.0	7.5	8.5	8.0	7.5	7.0	9.5	8.0
19	19.0	18.0	13.0	12.0	7.5	7.0	8.0	7.5	8.0	7.0	8.0	8.0
20	20.0	19.0	13.5	12.5	9.0	7.5	8.0	7.0	9.0	8.0	10.0	8.0
21	20.5	20.0	14.5	13.5	9.5	9.0	7.0	6.5	9.5	9.0	10.5	6.0
22	21.5	20.5	15.0	14.0	9.5	6.5	7.0	6.0	9.0	4.0	6.0	5.0
23	21.5	21.5	15.0	15.0	8.0	6.5	7.5	6.5	4.5	3.5	6.0	5.0
24	21.5	20.0	15.0	12.0	9.0	8.5	7.5	6.5	4.5	4.5	7.0	6.0
25	20.0	18.0	12.0	11.5	9.5	6.0	6.5	6.0	4.5	4.5	7.0	6.5
26	18.0	16.5	12.0	11.5	6.0	5.5	6.5	6.0	5.0	4.5	6.5	6.5
27	16.5	15.5	12.0	11.5	5.5	5.0	7.0	6.5	4.5	4.5	8.0	6.5
28	15.5	15.5	12.0	11.0	5.5	5.0	7.0	6.0	5.0	4.5	9.0	8.0
29	16.0	15.5	11.0	9.0	5.5	5.0	7.0	6.0	5.5	4.5	9.0	8.5
30	17.5	16.5	9.0	8.5	5.5	4.5	7.0	6.5	---	---	8.5	8.0
31	18.0	17.5	---	---	5.5	5.0	7.0	6.5	---	---	9.0	8.5
MONTH	24.5	14.0	19.0	8.5	11.5	4.5	8.5	4.0	9.5	3.5	10.5	3.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.5	9.0	18.0	17.0	24.5	23.5	27.0	26.5	28.0	27.0	29.5	29.0
2	10.5	9.5	19.0	17.5	24.5	22.5	27.0	26.0	28.0	27.0	29.0	28.5
3	11.0	10.5	20.0	19.0	23.5	22.0	27.0	26.0	---	---	28.5	28.0
4	11.0	9.5	20.5	19.5	24.0	23.0	27.5	26.5	---	---	28.5	28.0
5	10.0	9.0	21.0	20.5	24.5	23.0	27.0	26.5	---	---	28.0	28.0
6	11.0	10.0	22.0	21.0	23.5	20.5	26.5	25.5	26.0	25.5	28.5	28.0
7	12.0	10.5	22.0	21.5	22.5	20.5	26.5	25.0	27.0	26.5	28.5	27.5
8	12.5	11.5	21.0	20.0	22.5	20.5	27.0	26.0	---	---	28.5	27.5
9	12.5	12.0	20.0	19.5	20.5	19.0	27.0	26.0	---	---	28.0	26.5
10	12.5	11.0	19.5	19.0	18.5	18.0	27.0	26.0	---	---	26.5	25.5
11	11.5	10.5	19.0	18.5	19.5	18.0	27.0	26.0	28.0	27.0	25.5	25.0
12	12.5	11.5	19.0	18.0	20.5	18.5	28.0	27.5	27.0	25.5	26.0	25.5
13	12.0	11.0	18.0	17.0	22.0	20.0	27.5	26.5	26.5	25.5	26.5	24.0
14	11.5	9.5	20.0	18.5	23.0	21.5	27.5	26.5	27.0	26.0	23.0	20.5
15	10.0	9.0	19.5	19.0	23.0	22.5	28.0	26.5	27.5	26.5	23.5	22.5
16	9.0	8.5	19.5	18.5	22.5	20.5	29.0	27.5	27.5	27.0	23.5	23.0
17	10.0	9.0	19.5	18.5	22.0	20.5	29.0	29.0	27.0	26.0	23.0	22.5
18	11.5	10.5	19.0	16.5	23.0	21.0	29.5	29.0	25.5	24.0	---	---
19	13.0	12.0	18.5	17.0	24.0	22.0	30.5	29.0	25.0	24.0	24.0	22.0
20	14.5	13.5	20.0	18.0	23.5	23.0	31.0	30.0	26.5	25.0	---	---
21	15.5	14.0	20.5	19.0	24.0	22.5	31.0	30.0	27.0	25.5	---	---
22	16.0	15.0	22.0	20.5	25.0	23.5	31.0	26.0	25.5	24.5	---	---
23	17.5	16.0	22.5	21.5	25.5	24.0	27.0	26.0	25.5	24.5	---	---
24	18.0	17.0	23.0	22.5	27.0	25.0	27.0	26.0	26.0	25.5	---	---
25	17.5	17.0	23.5	22.5	26.0	26.0	28.0	27.0	26.5	26.0	---	---
26	17.5	16.5	23.5	22.5	28.0	26.5	28.0	27.5	27.0	26.0	---	---
27	17.0	16.0	23.0	22.5	29.0	27.5	28.5	27.5	27.5	26.5	---	---
28	16.0	15.5	23.0	22.5	29.0	27.5	27.5	24.5	29.0	27.5	---	---
29	17.0	15.5	24.0	22.5	28.5	28.0	25.0	24.5	29.5	28.0	---	---
30	17.0	16.0	24.5	23.5	28.0	27.0	27.0	25.0	29.5	28.5	22.0	21.0
31	---	---	24.5	24.0	---	---	27.5	26.5	29.5	29.0	---	---
MONTH	18.0	8.5	24.5	16.5	29.0	18.0	31.0	24.5	29.5	24.0	29.5	20.5
YEAR	31.0	3.5										

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.2	1.2	6.1	5.4	---	---	10.1	9.9	9.0	8.6	9.6	8.7
2	2.9	1.0	5.2	1.6	---	---	9.9	9.7	8.6	8.3	9.6	8.5
3	2.8	1.6	5.3	1.8	---	---	10.0	9.5	8.7	8.4	9.5	8.7
4	3.1	1.7	5.9	5.2	8.5	6.5	9.6	9.3	9.1	8.5	9.1	8.6
5	3.2	1.4	6.6	5.7	8.8	8.4	9.6	9.2	8.9	8.6	8.7	7.1
6	3.5	2.4	6.9	6.2	8.6	8.0	9.5	6.7	8.9	8.5	8.3	6.5
7	3.8	3.0	6.9	6.4	8.2	6.3	9.4	8.9	8.9	8.5	8.3	6.7
8	4.2	3.3	6.3	3.9	8.4	8.0	9.4	9.0	8.4	8.1	9.6	6.9
9	5.7	4.1	7.9	6.3	8.4	7.8	9.3	8.4	8.1	7.7	9.8	8.7
10	6.4	4.3	---	---	8.5	7.8	8.9	8.2	7.7	7.3	9.8	9.1
11	6.8	5.9	---	---	8.1	6.7	9.1	7.2	7.5	6.9	9.5	8.9
12	6.9	5.6	---	---	6.8	6.0	10.2	9.1	7.5	7.1	9.8	8.7
13	---	---	---	---	6.9	4.9	10.6	10.2	7.2	6.9	9.7	9.1
14	---	---	---	---	7.9	6.9	10.4	10.0	7.2	8.6	9.2	7.9
15	---	---	---	---	8.1	6.9	9.9	9.4	6.9	6.2	9.2	8.1
16	---	---	---	---	8.3	6.9	9.5	9.2	6.7	6.5	9.1	8.1
17	---	---	---	---	8.2	6.8	9.5	9.2	7.1	6.2	8.5	7.8
18	---	---	---	---	8.0	7.0	9.1	8.7	7.8	6.8	9.7	9.0
19	---	---	---	---	8.5	7.2	9.1	8.7	8.0	7.5	9.9	8.8
20	---	---	7.9	6.8	7.9	7.5	9.2	8.8	7.7	5.6	9.5	8.6
21	---	---	7.2	6.2	7.6	6.6	9.3	8.7	6.9	5.5	10.1	6.6
22	---	---	6.6	3.8	8.3	6.3	9.5	8.9	9.6	5.6	10.7	10.0
23	---	---	6.0	3.0	8.8	8.4	9.2	8.2	10.0	9.7	11.1	9.8
24	---	---	7.3	4.5	8.8	8.1	8.8	8.2	10.1	10.0	10.7	10.0
25	---	---	7.4	6.5	9.6	8.0	8.9	8.3	10.1	9.0	10.4	9.4
26	6.8	5.8	7.5	6.6	9.9	9.5	9.0	8.0	9.9	9.7	10.6	9.4
27	6.8	6.9	7.4	6.9	10.3	9.8	9.0	7.9	10.0	9.6	10.4	9.5
28	7.5	7.0	---	---	10.3	10.1	9.1	8.0	9.8	9.0	10.2	8.8
29	7.6	7.1	---	---	10.4	10.3	9.2	8.5	9.6	8.9	9.4	8.3
30	6.9	5.9	---	---	10.4	10.3	8.9	8.3	---	---	9.1	8.7
31	6.2	5.5	---	---	10.3	10.1	8.8	8.4	---	---	9.5	8.5
MONTH	7.6	1.0	7.9	1.6	10.4	4.9	10.6	7.2	10.1	5.5	11.1	6.5

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.4	9.0	4.9	3.7	.8	.0	---	---	.6	.3	1.0	.6
2	9.3	8.9	5.4	3.7	2.3	.4	---	---	.8	.5	.9	.0
3	9.0	8.5	4.7	3.9	3.0	1.7	---	---	---	---	.4	.0
4	9.0	8.0	3.9	1.3	2.5	1.9	---	---	---	---	.9	.0
5	9.7	8.9	3.7	1.0	2.3	1.8	---	---	---	---	.4	.1
6	9.1	8.5	3.3	2.0	3.0	1.1	---	---	1.5	1.3	.6	.4
7	9.5	8.2	2.0	.8	3.2	2.0	---	---	1.4	.7	1.2	.5
8	8.9	8.2	2.1	1.3	3.6	1.6	---	---	---	---	1.4	.8
9	8.9	7.8	2.4	1.7	5.6	3.5	---	---	---	---	1.1	.6
10	8.9	8.3	2.3	.4	5.5	4.0	---	---	---	---	.8	.7
11	9.6	8.9	3.1	.9	5.2	4.1	---	---	1.5	.6	1.2	.6
12	9.3	8.0	3.6	1.5	5.3	4.1	---	---	2.3	1.6	1.3	.8
13	8.9	7.9	4.6	1.4	5.3	4.6	---	---	2.1	1.5	2.1	.7
14	9.5	8.6	4.4	2.7	4.6	2.4	---	---	2.0	1.5	3.7	2.2
15	9.7	9.1	5.0	3.7	2.8	1.5	---	---	2.0	1.1	2.3	1.8
16	10.2	9.6	5.4	4.7	3.8	1.1	---	---	1.5	1.0	3.3	2.1
17	10.1	9.3	5.5	4.5	3.8	1.9	.3	.2	1.6	1.2	3.5	3.2
18	9.6	9.0	5.8	3.1	3.5	2.6	.4	.1	2.0	1.2	---	---
19	8.9	8.3	6.6	5.4	3.5	2.2	.4	.1	2.8	1.8	---	---
20	8.5	7.8	6.4	5.6	2.7	2.2	.7	.2	1.9	1.1	---	---
21	8.2	7.3	5.8	4.5	---	---	.7	.3	2.3	1.1	---	---
22	7.5	6.5	5.7	4.2	---	---	.6	.0	3.0	2.0	---	---
23	6.7	5.2	4.6	3.2	---	---	1.0	.3	2.7	2.2	---	---
24	5.8	4.7	3.1	1.9	---	---	1.2	.6	2.7	1.6	---	---
25	6.6	5.6	3.9	2.0	---	---	1.0	.3	2.9	1.6	---	---
26	6.4	5.8	4.1	3.0	---	---	.7	.3	2.6	1.5	---	---
27	7.1	6.0	3.2	1.9	---	---	.8	.3	2.4	1.4	---	---
28	6.8	5.3	3.5	2.6	---	---	1.4	.4	2.3	1.0	---	---
29	6.6	5.0	4.5	2.7	---	---	1.3	.6	2.4	.0	---	---
30	5.9	4.7	3.4	.4	---	---	1.1	.6	1.6	.1	---	---
31	---	---	1.2	.0	---	---	.6	.4	1.8	.7	---	---
MONTH	10.2	4.7	6.6	.0	5.6	.0	1.4	.0	3.0	.0	3.7	.0
YEAR	11.1	.0										

04208690 EUCLID CREEK NEAR EUCLID, OH

LOCATION.--Lat 41°34'28", long 81°32'51", Cuyahoga County, Hydrologic Unit 04110003, on right bank 150 ft (46 m) upstream from St. Clair Avenue bridge, 0.3 mi (0.5 km) downstream from city of Cleveland waterworks, 1.6 mi (2.6 km) upstream from mouth.

DRAINAGE AREA.--22.6 mi² (58.5 km²).

PERIOD OF RECORD.--May 1977 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 600.26 ft (182.959 m) National Geodetic Vertical Datum of 1929, city of Cleveland bench mark.

REMARKS.--Records poor. Diurnal fluctuations caused by waterplant upstream from gage. Sediment data collected July 1977 to September 1978.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,410 ft³/s (96.6 m³/s) Aug. 2, 1980, gage height, 8.93 ft (2.722 m) from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of contracted-opening measurement of peak flow and a slope area measurement at a lower stage; minimum daily discharge 3.1 ft³/s (0.088 m³/s) July 10, 11, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 31, 1975 reached a stage of 15.06 ft (4.590 m), from floodmarks, discharge, 7,440 ft³/s (211 m³/s) on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 7	0930	2690	76.2	7.65	2.332	Aug. 5	2215	2310	65.4	6.94	2.115
Dec. 25	1200	3070	86.9	8.32	2.536	Aug. 21	1900	2630	74.5	7.53	2.295
Aug. 2	1845	*3410	96.6	*8.93	2.722						

Minimum daily discharge, 5.3 ft³/s (0.150 m³/s) May 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	29	26	28	11	15	45	9.0	10	15	15	8.0
2	23	81	23	26	10	14	33	8.5	12	15	589	16
3	21	18	22	25	9.5	13	44	9.0	11	9.1	222	13
4	140	11	21	22	9.5	12	312	8.5	6.0	9.0	38	10
5	41	8.3	22	20	9.0	69	54	8.5	6.0	55	231	9.0
6	35	8.7	41	20	9.0	44	30	8.0	30	16	214	8.0
7	610	49	54	19	8.5	112	28	7.5	80	8.0	45	7.5
8	77	19	36	16	8.5	304	102	7.5	180	89	41	7.5
9	47	92	22	16	8.5	62	118	7.0	70	22	38	19
10	151	139	23	15	8.0	69	52	7.0	80	16	102	15
11	132	32	24	241	8.0	49	27	11	30	10	97	10
12	52	17	45	64	8.0	25	38	43	20	38	137	8.5
13	56	11	21	33	8.0	22	33	60	14	37	37	100
14	30	19	15	33	8.0	22	307	20	15	14	25	400
15	56	49	14	31	8.0	21	83	9.0	20	12	22	100
16	14	110	13	25	8.0	23	58	5.3	23	35	21	45
17	11	42	12	29	8.0	104	40	25	14	31	17	30
18	20	27	12	33	8.0	106	32	54	12	7.0	27	25
19	8.7	25	11	25	8.0	56	25	18	25	10	16	20
20	8.7	21	11	23	16	42	22	16	30	9.0	32	15
21	8.7	19	7.4	21	57	392	20	14	15	17	377	12
22	8.7	147	223	20	314	83	16	12	7.0	69	193	13
23	16	100	113	19	88	47	13	10	16	111	50	46
24	35	252	410	17	48	81	13	9.0	10	13	27	25
25	25	85	1200	16	20	75	12	8.0	12	12	21	16
26	22	190	177	15	21	35	11	7.0	9.0	8.5	16	17
27	11	58	70	14	18	27	11	8.5	14	27	13	14
28	9.1	67	46	13	17	40	10	6.0	11	55	11	12
29	11	42	36	12	16	92	9.5	6.5	10	38	10	11
30	6.0	28	34	12	---	59	9.0	9.0	11	76	9.0	11
31	7.0	---	29	11	---	182	---	11	---	22	8.0	---
TOTAL	1735.9	1784.0	2893.4	920	786.5	2297	1607.5	441.4	805.0	905.2	2693.0	1043.5
MEAN	56.0	59.5	93.3	29.7	27.1	74.1	53.6	14.2	26.9	29.2	86.9	34.8
MAX	610	252	1200	241	314	392	312	60	180	111	589	400
MIN	6.0	8.3	7.4	11	8.0	12	9.0	5.3	6.0	7.0	8.0	7.5
CFSM	2.48	2.63	4.13	1.31	1.20	3.28	2.37	.63	1.19	1.29	3.85	1.54
IN.	2.86	2.94	4.76	1.51	1.29	3.78	2.65	.73	1.33	1.49	4.43	1.72

CAL YR 1979 TOTAL 20128.0 MEAN 55.1 MAX 1200 MIN 3.2 CFSM 2.44 IN 33.13
WTR YR 1980 TOTAL 17913.2 MEAN 48.9 MAX 1200 MIN 5.3 CFSM 2.16 IN 29.48

04208690 EUCLID CREEK NEAR EUCLID, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
04...	1730	243	346	7.1	38	41	35	7.8	194	.26
04...	1800	226	348	7.1	50	45	34	7.9	188	.26
04...	1815	217	347	7.2	45	48	35	8.0	194	.26
04...	1830	206	355	7.2	40	47	35	8.5	187	.25
04...	1845	198	359	7.2	39	45	35	8.3	195	.27
04...	1900	192	354	7.2	50	45	34	8.7	202	.27
04...	1915	192	357	6.4	43	50	36	6.4	197	.27
04...	1930	180	384	6.3	--	50	37	8.0	193	.26
04...	1945	177	406	6.6	34	47	51	8.4	219	.30
04...	2000	162	408	6.7	42	49	52	8.8	233	.32
04...	2100	140	401	6.8	38	54	46	9.0	298	.40

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
04...	127	108	1.3	.01	1.2	1.1	2.5	11	.347	7.7
04...	115	106	1.3	.00	1.3	1.2	2.6	12	.345	7.7
04...	114	101	1.3	.01	1.1	1.1	2.5	11	.330	7.4
04...	104	95	1.3	.06	1.2	1.2	2.6	12	.333	8.0
04...	104	94	1.4	.02	1.4	1.3	2.8	12	.344	8.6
04...	105	126	1.3	.00	2.2	2.2	3.6	16	.434	9.7
04...	102	101	1.3	.04	1.7	1.7	3.1	14	.378	8.7
04...	93.7	115	1.3	.00	1.6	1.6	2.9	13	.379	8.9
04...	105	80	1.3	.00	1.3	1.3	2.7	12	.373	8.7
04...	102	82	1.3	.04	1.5	1.5	2.9	13	.339	8.7
04...	112	73	1.3	.05	1.2	1.3	2.7	12	.342	8.8

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH

LOCATION.--Lat 41°37'51", long 81°24'13", in T.9 N., R.10 W., Lake County, Hydrologic Unit 04110003, on left bank, 150 ft (46 m) downstream from city waterworks dam, 800 ft (244 m) downstream from East Branch, 1.0 mi (1.6 km) southeast of Willoughby, and 5.0 mi (8.0 km) upstream from mouth.

DRAINAGE AREA.--246 mi² (637 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1925 to November 1935, October 1939 to current year (July 1925 to September 1932 monthly run-off in inches, adjusted for diversion, published in WSP 1307; previously published run-off was unadjusted and should not be used).

REVISED RECORDS.--WSP 1084: 1929(M), 1931(M). WSP 1307: 1926-28(M), 1930(M), 1932-35(M), 1942(M). WSP 1912: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 594.57 ft (181.225 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 20, 1939, nonrecording gage at site 150 ft (46 m) upstream at datum 7 ft (2 m) higher.

REMARKS.--Records fair except those for winter periods, which are poor. Water diverted 200 ft (61 m) upstream from station for municipal supply of city of Willoughby. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--51 years, 330 ft³/s (9.346 m³/s), 18.22 in/yr (463 mm/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,000 ft³/s (793 m³/s) Mar. 22, 1948, gage height, 17.95 ft (5.471 m) (from high-water mark in well), from rating curve extended above 14,000 ft³/s (393 m³/s) on basis of contracted-opening measurements of peak flow; minimum daily, 3.0 ft³/s (0.085 m³/s) July 25, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 10.3 ft (3.14 m), from floodmark, former site and datum, discharge, 24,500 ft³/s (694 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (113 m³/s) and maximum (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 25	1600	*10100	286	*11.92	3.633	Aug. 6	0030	7010	199	9.39	2.862
Mar. 21	1500	4450	126	7.27	2.216	Aug. 21	2030	4020	114	6.89	2.100
Aug. 2	2100	4420	125	7.24	2.207						

Minimum daily discharge, 59 ft³/s (1.67 m³/s) July 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	127	265	324	110	190	689	147	166	94	81	110
2	97	233	242	304	110	170	421	138	197	81	994	101
3	324	175	224	284	100	150	339	143	193	69	1080	114
4	327	134	215	270	100	250	2070	143	161	59	883	110
5	304	127	215	247	95	314	[illegible]	136	138	134	676	110
6	282	127	265	230	95	512	481	127	319	131	2130	110
7	2010	175	387	210	90	380	354	124	439	87	381	107
8	880	166	344	190	90	2790	484	120	2310	883	288	107
9	354	304	265	170	90	1110	2430	114	776	265	265	110
10	679	1770	219	160	90	722	985	114	1100	120	587	127
11	652	631	215	1660	90	709	612	147	376	94	558	107
12	354	354	237	1430	90	334	537	197	208	87	845	103
13	433	251	314	493	90	294	844	444	170	100	344	100
14	481	237	247	370	90	256	1390	650	166	110	233	1270
15	314	309	206	299	90	233	1900	294	237	110	197	344
16	208	1150	201	275	90	251	1140	201	244	120	184	131
17	170	525	198	314	90	556	631	175	169	114	170	138
18	152	334	180	404	90	987	639	537	152	90	180	127
19	131	256	170	294	90	663	349	883	127	69	180	100
20	134	233	170	251	90	427	290	319	197	64	201	90
21	152	215	178	233	320	2510	251	219	131	81	951	87
22	143	544	1380	219	2400	1090	224	184	114	100	1310	90
23	134	683	1290	200	2200	790	208	170	107	237	336	143
24	143	1290	2450	190	1030	1010	184	156	107	97	206	103
25	161	736	6270	180	575	1340	180	138	103	72	161	85
26	189	1300	3480	170	344	625	180	124	94	84	143	80
27	152	722	1200	160	250	410	161	110	94	75	131	75
28	131	544	824	150	230	334	175	100	94	193	117	75
29	127	457	537	140	210	756	161	100	90	208	110	70
30	127	329	416	130	---	729	152	100	94	108	114	70
31	127	---	354	120	---	1270	---	175	---	108	110	---
TOTAL	9970	14438	23162	10071	9549	22940	18843	6727	8941	4036	14700	4634
MEAN	322	481	747	325	329	740	628	217	298	130	474	154
MAX	2010	1770	6270	1660	2400	2790	2430	883	2310	883	2130	1270
MIN	97	127	170	120	90	150	152	100	90	59	81	70

CAL YR 1979 TOTAL 169708 MEAN 465 MAX 6270 MIN 54
WTR YR 1980 TOTAL 168867 MEAN 465 MAX 6270 MIN 59

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH--Continued

WATER-QUALITY RECORDS

SEDIMENT ANALYSIS

PERIOD OF RECORD.--July 1969 to current year.

PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: October 1970 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,900 mg/L Aug. 2, 1980; minimum daily mean, 1 mg/L Nov. 23, 25, 1970.
SEDIMENT LOADS: Maximum daily, 26,300 tons (23,900 tonnes) Sept. 14, 1979; minimum daily, 0.29 ton (0.26 tonne) Nov. 23, 1970.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,900 mg/L Aug. 2; minimum daily mean, 3 mg/L on several days during Dec., Jan., and Feb.
SEDIMENT LOADS: Maximum daily, 16,300 tons (14,800 tonnes) Aug. 6; minimum daily, 0.73 ton (0.66 tonne) Feb. 7, 10, 15, 17-19.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	100	12	3.2	127	15	5.1	265	4	2.9
2	97	17	4.5	233	31	20	242	4	2.6
3	324	17	15	175	8	3.8	224	5	3.0
4	327	113	100	134	6	2.2	215	4	2.3
5	304	67	61	127	10	3.4	215	4	2.3
6	282	59	45	127	7	2.4	265	8	5.7
7	2010	225	1050	175	7	3.3	307	15	16
8	680	48	88	166	9	4.0	344	9	8.4
9	354	34	32	304	58	144	265	4	2.9
10	679	150	343	1770	380	1750	219	3	1.8
11	852	197	491	631	25	43	215	3	1.7
12	354	65	62	354	12	11	237	5	3.2
13	433	67	78	251	10	6.8	314	7	5.9
14	481	39	51	237	11	7.0	247	5	3.3
15	314	20	17	309	21	28	206	4	2.2
16	206	16	8.9	1150	194	649	201	4	2.2
17	170	16	7.3	525	47	67	190	5	2.6
18	152	15	6.2	334	8	7.2	180	5	2.4
19	131	12	4.2	256	5	3.5	170	4	1.8
20	134	10	3.6	233	7	4.4	170	3	1.4
21	152	15	6.2	215	15	8.7	170	3	1.4
22	143	23	8.9	544	121	255	1300	305	1090
23	134	28	10	683	44	80	1290	92	320
24	143	25	9.7	1290	146	561	2450	880	6290
25	161	17	7.4	736	32	64	6270	825	13700
26	180	9	4.4	1300	159	648	3400	305	2800
27	152	10	4.1	722	40	78	1300	72	276
28	131	11	3.9	544	12	18	824	21	47
29	127	8	2.7	457	13	16	537	15	22
30	127	13	4.5	329	7	6.2	416	15	17
31	127	16	5.5	---	---	---	354	12	11
TOTAL	9978	---	3483.4	14438	---	4500.0	23162	---	24649.0

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	324	8	7.0	110	3	.89	190	9	4.6
2	304	9	7.6	110	4	1.2	170	11	5.0
3	284	9	6.9	100	3	.81	150	11	4.5
4	270	8	5.8	100	5	1.4	250	8	5.4
5	247	8	5.3	95	4	1.0	314	18	15
6	230	7	4.3	95	4	1.0	512	34	47
7	210	7	4.0	90	3	.73	360	25	24
8	190	9	4.6	90	4	.97	2740	1010	7720
9	170	8	3.7	90	5	1.2	1110	138	406
10	160	8	3.5	90	3	.73	722	75	146
11	1660	852	7810	90	4	.97	709	114	218
12	1430	280	1030	90	4	.97	334	35	32
13	463	20	27	90	4	.97	294	19	15
14	370	8	8.0	90	4	.97	256	12	8.3
15	299	8	6.5	90	3	.73	233	9	5.7
16	275	13	9.7	90	4	.97	251	14	9.5
17	314	27	23	90	3	.73	566	110	168
18	404	38	41	90	3	.73	887	184	437
19	284	18	14	90	3	.73	663	64	115
20	251	8	5.4	90	4	.97	427	47	54
21	233	6	3.8	320	23	20	2510	1390	12300
22	219	7	4.1	2460	920	7640	1690	130	593
23	200	6	3.2	2200	565	3450	796	60	129
24	190	8	4.1	1030	160	445	1010	110	370
25	180	7	3.4	575	47	73	1340	190	687
26	170	5	2.3	344	32	30	625	58	98
27	160	6	2.6	250	20	13	410	25	28
28	150	6	2.4	230	14	8.7	336	39	35
29	140	4	1.5	210	12	6.8	756	107	218
30	130	4	1.4	---	---	---	720	48	94
31	120	3	.97	---	---	---	1270	231	800
TOTAL	10071	---	8256.07	9949	---	11705.17	22048	---	25041.0
		APRIL			MAY			JUNE	
1	689	44	82	147	15	6.0	166	11	4.9
2	421	25	28	138	17	6.3	167	13	5.9
3	336	20	18	143	17	6.6	163	13	5.8
4	2070	1080	6040	143	23	8.9	161	11	4.8
5	894	160	386	134	17	6.2	130	7	2.5
6	631	30	51	127	17	5.8	319	151	156
7	354	36	34	124	9	3.0	428	701	1950
8	404	26	28	120	7	2.3	2310	888	7470
9	2630	490	3480	114	7	2.2	776	121	253
10	965	75	195	114	4	1.2	1100	248	728
11	612	70	116	147	8	3.2	376	36	37
12	537	47	68	197	12	6.4	206	19	11
13	644	48	83	644	60	104	170	16	7.3
14	1390	840	4250	650	68	118	166	18	8.1
15	1900	256	1430	294	12	9.5	237	458	425
16	1140	88	271	201	7	3.8	296	170	164
17	631	27	46	175	9	4.3	169	31	14
18	430	23	27	537	70	148	152	35	14
19	349	18	17	663	82	151	127	38	13
20	294	19	15	319	32	28	197	57	30
21	251	21	14	219	9	5.3	131	28	10
22	224	17	10	184	7	3.5	114	25	7.7
23	208	17	9.5	170	12	5.5	107	31	9.0
24	184	10	5.0	156	12	5.1	107	22	6.4
25	180	11	5.3	138	9	3.4	103	23	6.4
26	168	11	4.9	124	12	4.0	94	15	3.8
27	161	9	3.9	110	12	3.6	94	25	6.3
28	175	13	6.1	100	16	4.3	94	25	6.3
29	161	14	6.1	100	9	2.4	98	22	5.8
30	152	14	5.7	100	12	3.2	94	20	5.1
31	---	---	---	175	9	4.3	---	---	---
TOTAL	18843	---	17309.5	6727	---	727.3	8941	---	11616.7

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	94	15	3.8	81	37	8.1	110	22	6.5
2	81	11	2.4	994	1900	12300	161	82	41
3	69	18	3.4	1060	1040	7240	114	33	10
4	59	20	3.2	683	100	184	110	17	5.0
5	130	303	101	676	850	2670	110	18	5.3
6	131	96	34	2130	1040	16300	110	13	3.9
7	87	40	9.4	381	70	72	107	8	2.3
8	663	707	1960	280	60	45	107	13	3.8
9	265	83	59	265	62	44	110	41	12
10	120	81	26	587	487	1010	127	44	15
11	94	37	9.4	550	450	668	107	21	6.1
12	87	41	9.6	845	375	856	103	14	3.9
13	100	48	13	344	72	67	100	20	13
14	110	30	8.9	233	33	21	1270	780	2880
15	110	38	11	197	28	15	344	130	121
16	120	115	48	184	18	8.9	131	42	15
17	114	99	30	170	18	8.3	130	79	32
18	90	40	9.7	180	14	6.8	127	56	19
19	69	29	5.4	180	20	9.7	100	27	7.3
20	64	46	7.9	261	43	30	90	22	5.3
21	61	56	9.2	951	257	1500	87	34	8.0
22	100	80	22	1310	518	1830	90	49	12
23	237	201	155	334	93	84	143	62	24
24	97	53	14	206	31	17	103	27	7.5
25	72	44	8.6	161	26	11	85	17	3.9
26	64	52	9.0	143	30	12	80	20	6.0
27	75	63	13	131	33	12	75	14	2.8
28	193	66	34	117	30	9.5	75	12	2.4
29	206	186	101	110	29	8.6	70	15	2.8
30	166	99	47	114	23	7.1	70	13	2.5
31	100	53	14	110	18	5.3	---	---	---
TOTAL	4836	---	2841.9	14768	---	45868.3	4634	---	3279.3
YEAR	148087		159092.44						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
MAR 21...	1400	4430	3010	36000	25	35	50	72	93	98	99	100
JUN 07...	2300	1790	7850	37900	25	36	51	67	75	88	97	100
JUL 08...	0800	852	3900	8970	26	38	53	73	92	94	99	100
AUG 05...	2340	6580	6930	123000	27	38	54	74	88	97	100	--

04209000 CHAGRIN RIVER AT WILLOUGHBY, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
DEC										
26...	1700	2360	457	6.9	139	49	46	4.7	344	.47
26...	2100	2010	318	7.1	103	38	23	4.7	254	.35
27...	0100	1700	300	7.1	88	35	21	4.7	269	.37
27...	0500	1480	302	7.1	72	36	21	4.6	248	.34
27...	0900	1340	298	7.2	53	35	22	4.7	284	.39
27...	1000	1300	300	7.4	52	34	22	4.7	224	.30
27...	1100	1320	301	7.6	39	35	23	4.7	220	.30
27...	1200	1290	301	7.7	34	34	23	4.7	195	.27
27...	1300	1250	304	7.6	34	37	23	4.7	269	.37
27...	1400	1230	304	7.6	35	36	23	4.7	208	.28
27...	1500	1200	310	7.7	34	37	24	4.7	288	.39
27...	1600	1170	299	7.7	20	36	24	4.9	--	--
APR										
04...	0630	3530	390	7.4	--	--	--	3.9	300	.41
04...	0700	3410	352	7.6	--	--	--	3.6	255	.35
04...	0730	3240	360	7.5	--	--	--	3.6	241	.33
04...	0800	3090	363	7.6	--	--	--	3.6	238	.32
04...	0830	2930	365	7.5	--	--	--	3.7	222	.30
04...	0900	2780	361	7.5	--	--	--	3.7	245	.33
04...	0930	2690	353	7.5	--	--	--	3.7	255	.35
04...	1000	2640	345	7.6	--	--	--	3.7	254	.35
04...	1030	2540	338	7.5	--	--	--	3.7	208	.28
04...	1100	2450	333	7.5	--	--	--	3.7	224	.30
04...	1130	2350	321	7.5	--	--	--	3.7	198	.27
04...	1145	2320	318	7.5	--	--	--	3.7	217	.30
04...	1200	2290	310	7.5	--	--	--	3.7	241	.33
JUL										
08...	1000	1960	432	7.5	--	--	--	4.8	317	.43
08...	1100	1700	434	7.3	--	--	--	4.0	283	.38
08...	1200	1350	413	7.5	--	--	--	4.1	273	.37
08...	1300	1080	385	7.4	--	--	--	4.2	245	.33
10...	0900	143	376	7.4	--	--	--	5.4	235	.32

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC										
26...	2190	1444	.00	.03	2.7	2.7	2.8	12	2.052	9.8
26...	1380	2225	.61	.02	.91	.94	1.5	6.9	1.022	7.9
27...	1240	1508	.68	.03	2.1	2.1	2.8	12	.962	7.6
27...	991	1244	.77	.00	1.9	1.9	2.7	12	.758	6.9
27...	1030	894	.73	.00	1.1	1.0	1.8	8.0	.498	6.6
27...	786	665	.74	.02	1.3	1.3	2.1	9.1	.430	5.9
27...	784	575	.77	.02	.38	.40	1.2	5.2	.344	5.7
27...	679	468	.70	.00	1.1	1.0	1.8	7.9	.308	5.9
27...	908	465	.72	.00	.92	.92	1.6	7.3	.322	6.2
27...	691	483	.71	.02	.40	.42	1.1	5.0	.376	5.8
27...	933	468	.72	.02	1.1	1.1	1.8	8.2	.286	5.8
27...	--	123	.61	.05	.85	.90	1.5	6.7	.144	5.9
APR										
04...	2860	1516	.55	.11	3.3	3.4	4.0	18	1.336	11
04...	2350	1402	.93	.05	3.5	3.5	4.5	20	1.342	11
04...	2110	1767	.99	.07	3.4	3.4	4.5	20	1.300	10
04...	1990	1795	1.0	.05	3.3	3.3	4.4	19	1.284	10
04...	1760	1577	1.0	.06	2.9	2.9	4.0	18	1.110	10
04...	1840	1435	1.0	.05	2.7	2.7	3.8	17	.953	10
04...	1850	1256	1.0	.04	2.7	2.7	3.8	17	.884	10
04...	1810	1152	1.0	.04	2.3	2.3	3.4	15	.847	10
04...	1430	1087	1.0	.06	2.4	2.5	3.5	16	.798	--
04...	1480	1193	.93	.04	2.4	2.4	3.4	15	.765	--
04...	1260	1176	.91	.05	2.3	2.3	3.2	14	.783	--
04...	1360	974	.91	.05	2.2	2.2	3.1	14	.718	--
04...	1490	904	.89	.06	2.2	2.2	3.1	14	.660	--
JUL										
09...	1680	2460	.00	.00	6.8	6.8	6.8	30	2.000	--
08...	1300	3149	.84	.05	7.0	7.0	7.9	35	1.726	--
08...	995	2240	.94	.03	4.8	4.8	5.8	26	1.178	--
08...	714	1727	.91	.01	3.5	3.5	4.5	20	.945	--
10...	90.7	122	.86	.00	1.3	1.3	2.2	9.7	.201	--

04212100 GRAND RIVER NEAR PAINESVILLE, OH

LOCATION.--Lat 41°43'08", long 81°13'41", Lake County, Hydrologic Unit 04110004, on downstream left abutment of bridge on State Highway 84 (Walnut Avenue), 0.9 mi (1.4 km) downstream from Big Creek in Painesville.

DRAINAGE AREA.--685 mi² (1,774 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 620.37 ft (189.089 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter periods, which are poor.

AVERAGE DISCHARGE.--6 years, 1,046 ft³/s (29.62 m³/s), 20.73 in/yr (527 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,900 ft³/s (479 m³/s) Dec. 25, 1979, gage height, 13.16 ft (4.011 m); minimum, 11 ft³/s (0.31 m³/s) Sept. 14, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 6,500 ft³/s (184 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Oct. 7	1500	8240	233	8.69	2.649
Dec. 25	1600	*16900	479	*13.16	4.011
Mar. 21	1600	8650	245	8.92	2.719

Minimum discharge, 63 ft³/s (1.78 m³/s) July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	208	990	1120	200	350	2440	386	158	67	290	272
2	328	220	791	798	190	300	2040	357	202	66	398	302
3	1040	233	656	675	180	280	1670	312	564	68	1950	387
4	985	236	618	582	170	300	2700	286	1110	66	2440	384
5	930	236	649	460	160	400	2700	261	558	104	2300	335
6	1500	220	1080	400	150	450	2000	234	477	116	1500	277
7	4800	233	1330	340	150	420	1570	211	449	85	700	230
8	5150	260	1290	300	150	2500	1400	192	1340	542	500	193
9	3050	328	1140	280	150	10000	3710	181	1360	369	550	169
10	2470	1970	949	332	140	3500	2920	172	1510	557	800	155
11	3430	2180	812	1490	140	4000	2180	183	1180	585	1200	137
12	2390	1410	777	3080	140	2000	1870	199	957	512	1100	126
13	2440	977	764	2600	140	1200	1810	279	812	357	500	126
14	2710	742	735	1790	140	800	2680	800	624	229	300	207
15	2340	590	662	1530	140	700	4940	500	558	160	230	170
16	1260	1250	588	1400	140	900	3670	300	990	321	200	221
17	805	1240	499	1290	140	2000	2550	230	1120	656	220	560
18	572	977	400	1480	140	5000	2180	450	662	548	320	602
19	435	735	360	1420	140	2500	1660	750	412	331	240	444
20	345	603	340	1130	140	2200	1080	850	332	223	800	293
21	289	531	320	902	522	4960	715	700	244	168	3300	217
22	246	647	1500	715	2410	6020	540	534	237	130	3000	195
23	202	1400	3310	582	3890	3970	449	407	227	123	2500	290
24	184	2370	4850	500	4030	3330	381	366	172	110	2000	227
25	202	2760	12100	440	2520	4130	340	328	132	95	1600	192
26	260	2790	13400	380	1500	2960	304	264	108	84	1520	169
27	320	2640	9940	340	1000	1880	282	208	91	79	1400	155
28	308	2130	6400	300	800	1370	336	163	81	105	1050	130
29	293	1770	4560	270	600	1360	357	137	75	282	639	108
30	267	1370	3050	240	---	1750	376	118	72	492	424	90
31	236	---	1890	220	---	2210	---	125	---	399	322	---
TOTAL	39958	33256	70770	27386	20312	73740	51850	10483	16814	8029	34293	7371
MEAN	1289	1109	2476	883	700	2379	1728	338	560	259	1106	246
MAX	5150	2790	13400	3080	4030	10000	4940	850	1510	656	3300	602
MIN	171	208	320	220	140	280	282	118	72	66	200	90
CFSM	1.88	1.62	3.62	1.29	1.02	3.47	2.52	.49	.82	.38	1.62	.36
IN.	2.17	1.81	4.17	1.49	1.10	4.00	2.82	.57	.91	.44	1.66	.40

CAL YR 1979 TOTAL 478142 MEAN 1310 MAX 13400 MIN 25 CFSM 1.91 IN 25.97
WTR YR 1980 TOTAL 400262 MEAN 1094 MAX 13400 MIN 66 CFSM 1.60 IN 21.74

04212100 GRAND RIVER NEAR PAINESVILLE, OH--Continued

SEDIMENT ANALYSIS

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,350 mg/L Jan. 1, 1979; minimum daily mean, 3 mg/L Oct. 31, Nov. 1, 1979, Apr. 27, 28, 1980.
SEDIMENT LOADS: Maximum daily, 38,800 tons (35,200 tonnes) Dec. 25, 1979; minimum daily, 0.45 ton (0.41 tonne) Nov. 17, 1978.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,080 mg/L Dec. 25; minimum daily mean, 3 mg/L Oct. 31, Nov. 1, Apr. 27, 28.
SEDIMENT LOADS: Maximum daily, 38,800 tons (35,200 tonnes) Dec. 25; minimum daily 1.3 ton (1.2 tonne) May 30.

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	171	8	3.7	208	3	1.7	990	12	32
2	328	37	66	220	5	3.0	791	10	21
3	1040	115	332	233	9	5.7	656	8	14
4	985	46	122	236	6	3.8	618	7	12
5	930	38	95	236	7	4.5	649	7	12
6	1500	88	332	220	9	5.3	1080	13	38
7	4800	651	10700	233	8	5.0	1330	16	57
8	5150	145	2020	260	6	4.2	1290	13	45
9	3050	48	395	328	23	35	1140	11	34
10	2470	84	540	1970	159	860	949	11	28
11	3430	95	877	2180	55	324	812	9	20
12	2390	23	148	1410	31	118	777	7	15
13	2440	34	224	977	23	61	784	6	13
14	2710	32	234	742	15	30	735	6	12
15	2340	33	208	590	15	24	662	5	8.9
16	1260	24	82	1250	80	292	588	5	7.9
17	805	20	43	1240	19	64	499	5	6.7
18	572	18	28	977	12	32	400	5	5.4
19	435	17	20	735	16	32	360	5	4.9
20	345	12	11	603	8	13	340	5	4.6
21	289	11	8.6	531	7	10	320	5	4.3
22	246	9	6.0	647	23	40	1500	190	979
23	202	7	3.8	1400	32	121	3310	145	1300
24	184	7	3.5	2370	67	429	4850	245	3210
25	202	8	4.4	2760	60	447	12100	1080	38800
26	260	8	5.6	2790	63	475	13400	295	10700
27	320	7	6.0	2640	41	292	9940	131	3520
28	308	5	4.2	2130	29	167	6400	87	1500
29	293	4	3.2	1770	23	110	4560	66	813
30	267	4	2.9	1370	18	67	3050	49	404
31	236	3	1.9	---	---	---	1890	32	163
TOTAL	39958	---	16530.8	33256	---	4076.2	76770	---	61784.7

04212100 GRAND RIVER NEAR PAINESVILLE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	1120	23	70	200	6	3.2	350	12	11
2	798	17	37	190	6	3.1	300	10	8.1
3	675	18	33	180	6	2.9	280	10	7.6
4	582	9	14	170	6	2.8	300	10	8.1
5	460	5	6.2	160	6	2.6	400	11	12
6	400	7	7.6	150	6	2.4	450	15	18
7	340	6	5.5	150	6	2.4	420	19	22
8	300	5	4.1	150	6	2.4	2500	38	256
9	280	5	3.8	150	6	2.4	10000	180	1560
10	332	5	4.5	140	6	2.3	3500	137	1290
11	1490	610	4340	140	6	2.3	4000	117	1260
12	3080	820	6820	140	6	2.3	2000	85	459
13	2600	97	681	140	6	2.3	1200	58	188
14	1790	85	411	140	6	2.3	800	42	91
15	1530	46	190	140	6	2.3	700	28	53
16	1400	31	117	140	6	2.3	900	22	53
17	1290	21	73	140	6	2.3	2000	62	335
18	1480	24	96	140	6	2.3	5000	170	2300
19	1420	19	73	140	6	2.3	2500	101	682
20	1130	13	40	140	6	2.3	2200	70	416
21	902	14	34	522	6	8.5	4960	852	14100
22	715	15	29	2410	70	455	6020	360	5850
23	582	12	19	3890	100	1050	3970	152	1630
24	500	9	12	4030	110	1200	3330	95	854
25	440	8	9.5	2520	98	667	4130	103	1150
26	380	7	7.2	1500	45	182	2960	70	559
27	340	6	5.5	1000	32	86	1880	53	269
28	300	6	4.9	800	23	50	1370	39	144
29	270	6	4.4	600	16	26	1360	42	154
30	240	6	3.9	---	---	---	1750	47	222
31	220	6	3.6	---	---	---	2210	84	472
TOTAL	27386	---	13159.7	20312	---	3774.0	73740	---	34433.8
		APRIL			MAY			JUNE	
1	2440	70	461	386	8	8.3	158	12	5.1
2	2040	48	264	357	8	7.7	202	11	6.0
3	1670	36	162	312	8	6.7	564	156	304
4	2700	184	1310	286	9	6.9	1110	155	465
5	2700	89	649	261	10	7.0	558	57	86
6	2000	57	308	234	7	4.4	477	124	192
7	1570	47	199	211	6	3.4	449	48	73
8	1400	38	144	192	6	3.1	1340	282	1180
9	3710	452	4380	181	10	4.9	1360	108	397
10	2920	150	1180	172	9	4.2	1510	80	326
11	2180	85	500	183	12	5.9	1180	58	185
12	1870	63	318	199	13	7.0	957	54	140
13	1810	44	215	279	13	9.8	812	45	99
14	2680	325	3320	800	19	41	624	42	71
15	4940	375	4660	500	37	50	558	43	65
16	3670	119	1120	300	25	20	990	109	326
17	2550	67	461	230	15	9.3	1120	105	337
18	2180	52	306	450	11	13	662	38	68
19	1660	43	193	750	14	28	412	24	27
20	1080	35	102	850	17	39	332	26	23
21	715	24	46	700	18	34	244	15	9.9
22	540	18	26	534	8	12	237	14	9.0
23	449	13	16	407	9	9.9	227	14	8.6
24	381	8	8.2	366	8	7.9	172	13	6.0
25	340	6	5.5	328	8	7.1	132	20	7.1
26	304	4	3.3	264	9	6.4	108	40	12
27	282	3	2.3	208	6	3.4	91	27	6.6
28	336	3	2.7	163	5	2.2	81	15	3.3
29	357	8	7.7	137	4	1.5	75	14	2.8
30	376	10	10	118	4	1.3	72	14	2.7
31	---	---	---	125	4	1.4	---	---	---
TOTAL	51850	---	20379.7	10483	---	366.7	16814	---	4443.1

04212100 GRAND RIVER NEAR PAINESVILLE, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	67	14	2.5	290	35	27	272	12	8.8
2	66	12	2.1	398	83	100	302	13	11
3	68	12	2.2	1950	325	1650	387	17	18
4	66	10	1.8	2440	166	1090	384	17	18
5	104	23	6.5	2300	240	1490	335	16	14
6	116	35	11	1500	300	1220	277	15	11
7	85	17	3.9	700	112	212	230	14	8.7
8	542	870	1690	500	53	72	193	12	6.3
9	369	120	120	550	39	58	169	12	5.5
10	557	85	128	800	160	346	155	12	5.0
11	585	80	126	1200	120	389	137	12	4.4
12	512	57	79	1100	120	356	126	8	2.7
13	357	39	38	500	41	55	126	17	5.8
14	229	27	17	300	27	22	207	36	20
15	160	22	9.5	230	23	14	178	16	7.7
16	321	62	54	200	24	13	221	17	10
17	656	177	319	220	22	13	560	41	62
18	548	72	107	320	17	15	602	38	62
19	331	42	38	240	16	10	444	27	32
20	223	33	20	800	14	30	293	20	16
21	168	22	10	3300	13	116	217	20	12
22	130	20	7.0	3000	20	162	195	32	17
23	123	18	6.0	2500	35	236	290	52	41
24	110	14	4.2	2000	91	491	227	21	13
25	95	12	3.1	1600	65	281	192	12	6.2
26	84	13	2.9	1520	63	259	169	11	5.0
27	79	23	4.9	1400	52	197	155	11	4.6
28	105	57	16	1050	38	108	130	9	3.2
29	282	113	86	639	24	41	108	10	2.9
30	492	77	102	424	15	17	90	11	2.7
31	399	38	41	322	11	9.6	---	---	---
TOTAL	8029	---	3058.6	34293	---	9099.6	7371	---	436.5
YEAR	400262		171543.4						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
MAR							
21...	1300	5870	1960	31100	21	30	42
JUL							
08...	0845	990	2490	6660	32	45	60

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
MAR						
21...	61	83	87	94	99	100
JUL						
08...	80	95	97	100	--	--

04212200 GRAND RIVER AT PAINESVILLE, OH
(National stream-quality accounting network station)

LOCATION.--Lat 41°44'09", long 81°15'59", in T.11 N., R.8 W., Lake County, Hydrologic Unit 04110004, at bridge on State Highway 535 in Painesville, 2.2 mi (3.5 km) upstream from mouth, and 8.0 mi (12.9 km) downstream from Kellogg Creek.

DRAINAGE AREA.--701 mi² (1,816 km²).

PERIOD OF RECORD.--March 1950 to February 1952, October 1962 to current year.

PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: December 1966 to current year.
pH: December 1966 to current year.
WATER TEMPERATURES: March 1950 to February 1952, October 1962 to current year.
DISSOLVED OXYGEN: December 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. See records of daily discharge for station near Painesville (station 04212100).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 30,300 micromhos July 14, 1964; minimum, 130 micromhos Dec. 24.
pH: Maximum, 12.0 units Nov. 9, 1971, Jan. 18, 1975; minimum, 4.5 units Sept. 28, 1972.
WATER TEMPERATURES: Maximum, 33.5°C June 28, 1971; minimum, 0.0°C on many days during winter periods.
DISSOLVED OXYGEN: Maximum, 16.2 mg/L May 1, 1980; minimum, 0.0 mg/L on several days in 1968, 1977, and July 2, Aug. 30, 1978.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 5,340 micromhos Sept. 14; minimum, 130 micromhos Dec. 24.
pH: Maximum, 8.8 units Apr. 30, May 23; minimum, 7.0 units Mar. 22.
WATER TEMPERATURES: Maximum, 30.0°C July 21, 22; minimum, 0.0°C on several days during winter periods.
DISSOLVED OXYGEN: Maximum, 16.2 mg/L May 1; minimum, 4.8 mg/L June 27, 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
03...	1600	992	560	7.4	17.5	35	7.3	76	38	4400	6400
NOV											
07...	1500	250	1600	7.9	6.5	6.0	10.1	82	27	1000	170
DEC											
12...	1530	763	770	7.8	5.5	5.0	12.0	95	22	730	90
JAN											
09...	1400	280	1380	7.8	1.5	1.2	13.8	99	31	300	60
FEB											
12...	1230	140	2230	7.6	.5	1.0	13.6	94	40	180	K32
MAR											
05...	1530	450	1280	7.6	.0	2.0	13.4	92	100	7600	2500
APR											
11...	1100	2230	310	7.6	9.0	3.5	12.0	100	31	700	180
MAY											
08...	1630	192	2020	8.3	17.0	2.6	11.2	120	28	10	10
JUN											
04...	1745	1010	485	7.6	21.0	2.2	8.2	91	39	1200	950
JUL											
09...	1700	371	1040	7.6	22.0	80	7.5	85	30	2000	3000
AUG											
04...	1630	2510	320	7.4	23.5	65	8.3	96	110	1500	3000
SEP											
09...	1400	166	2420	8.1	23.0	.70	8.3	95	31	3400	110

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)
OCT 03...	160	100	52	7.6	35	4.4	57	39	97	.2	5.6
NOV 07...	410	330	150	9.4	130	3.9	80	46	410	.2	4.5
DEC 12...	210	160	73	7.9	52	3.3	50	46	160	.1	5.4
JAN 09...	360	300	130	8.9	110	3.9	58	52	330	.2	6.4
FEB 12...	650	570	240	13	170	4.1	84	66	610	.2	6.0
MAR 05...	330	280	120	7.6	84	3.3	47	51	330	.1	5.8
APR 11...	98	64	31	5.0	22	2.2	34	29	52	.1	3.7
MAY 08...	550	480	200	13	160	3.7	75	57	530	.2	1.8
JUN 04...	130	81	42	6.4	31	2.6	50	34	75	.2	3.6
JUL 09...	260	190	93	6.4	74	3.6	64	37	240	.2	3.8
AUG 04...	100	52	32	5.8	22	3.3	52	28	51	.2	5.4
SEP 09...	670	590	250	11	210	5.7	78	49	700	.3	2.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHYTOPLANKTON, TOTAL (CELLS PER ML)	PERIPHYTON BIOMASS ASH WEIGHT G/SQ M
OCT 03...	350	278	.60	.74	1.3	5.6	.090	--	--	--
NOV 07...	948	803	.56	.86	.97	4.3	.050	6.3	90	--
DEC 12...	485	380	.49	.61	1.1	4.7	.060	5.9	--	--
JAN 09...	857	660	.65	.75	1.9	8.2	.520	--	--	--
FEB 12...	1320	1160	.45	.73	1.8	8.1	.100	6.0	--	--
MAR 05...	806	634	.37	.62	1.6	7.2	.110	6.0	86	--
APR 11...	233	167	.65	.72	1.1	5.0	.170	--	--	--
MAY 08...	1250	1010	.73	.96	3.4	15	.150	5.5	1900	9.29
JUN 04...	320	229	1.3	1.4	2.2	9.9	.100	8.0	--	17.5
JUL 09...	702	501	.94	1.1	2.0	8.8	.140	--	3800	14.3
AUG 04...	240	181	1.1	1.1	1.5	6.8	.150	9.4	1700	--
SEP 09...	1500	1280	.62	.83	1.7	7.3	.080	9.2	69000	--

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

ANALYSES OF MINOR ELEMENTS

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)
OCT 03...	1600	2	1	100	40	21	21	30	10
NOV 07...	1500	--	--	--	--	--	--	--	--
JAN 09...	1400	1	1	100	50	0	0	60	60
FEB 12...	1230	--	--	--	--	--	--	--	--
APR 11...	1100	1	1	<50	20	2	2	20	20
MAY 08...	1630	--	--	--	--	--	--	--	--
JUL 09...	1700	2	1	50	50	2	2	20	20
AUG 04...	1630	--	--	--	--	--	--	--	--

DATE	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
OCT 03...	2	1	6	5	2500	30	75	75	70
NOV 07...	--	--	--	--	--	--	--	--	--
JAN 09...	0	0	5	4	850	20	18	0	80
FEB 12...	--	--	--	--	--	--	--	--	--
APR 11...	4	1	7	4	4300	70	5	2	110
MAY 08...	--	--	--	--	--	--	--	--	--
JUL 09...	5	0	12	0	5000	30	10	0	140
AUG 04...	--	--	--	--	--	--	--	--	--

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, DISSOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 03...	20	<.5	<.5	0	0	0	0	20	2
NOV 07...	--	--	--	--	--	0	--	--	--
JAN 09...	80	.1	.1	0	0	0	0	30	20
FEB 12...	--	--	--	--	--	0	--	--	--
APR 11...	20	.1	.1	0	0	0	0	30	10
MAY 08...	--	--	--	--	--	0	--	--	--
JUL 09...	50	.1	.1	0	0	1	0	30	7
AUG 04...	--	--	--	--	--	0	--	--	--

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	TEMPER-ATURE, WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
03...	1600	992	17.5	41	110
NOV					
07...	1500	250	6.5	11	7.4
DEC					
12...	1530	763	5.5	10	21
JAN					
09...	1400	280	1.5	12	9.1
FEB					
12...	1230	140	.5	6	2.3
MAR					
05...	1530	450	.0	8	9.7
APR					
11...	1100	2230	9.0	57	343
MAY					
08...	1630	192	17.0	5	2.6
JUN					
04...	1745	1010	21.0	80	218
JUL					
09...	1700	371	22.0	121	121
AUG					
04...	1630	2510	23.5	184	1250
SEP					
09...	1400	166	23.0	16	7.2

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2730	2190	1830	1500	870	720	670	460	1890	1620	---	---
2	2370	2100	1920	1590	960	870	760	640	2130	1710	---	---
3	2460	570	1650	1470	1080	930	1020	760	2160	1740	---	---
4	660	510	1800	1440	1080	1020	1140	1020	2010	1740	---	---
5	690	600	1590	1500	1140	1000	1200	1080	2100	1800	---	---
6	630	510	1860	1530	915	645	1350	1140	2160	1950	1180	950
7	600	420	1830	1620	650	530	1500	1230	2070	1770	940	660
8	450	420	1650	1530	570	450	1530	1380	2130	1860	680	310
9	540	420	1620	1410	580	400	1590	1350	2190	2040	310	240
10	570	480	1710	510	670	550	1650	1410	2220	2070	310	240
11	480	450	1950	510	700	640	1680	1500	2310	2070	290	280
12	540	480	---	---	730	670	---	---	2250	2130	360	280
13	540	510	---	---	730	670	---	---	2250	1980	400	360
14	510	480	1500	750	760	700	600	540	3030	2250	600	490
15	540	480	1050	840	850	700	690	450	2490	2070	760	600
16	690	540	1020	600	940	820	750	690	2340	2220	840	740
17	840	690	690	600	1000	820	780	600	2400	2250	800	430
18	960	810	720	630	1000	850	690	570	2490	2310	410	290
19	1200	990	870	720	1030	850	720	630	2610	2280	310	280
20	1260	1170	900	840	1270	1000	810	690	2460	2190	370	310
21	---	---	990	870	1390	1120	900	780	2340	2100	390	230
22	---	---	1110	720	1270	340	1020	870	3810	600	240	220
23	---	---	690	510	370	280	1050	1020	570	480	270	230
24	2040	1890	600	480	310	130	---	---	540	480	290	260
25	1950	1620	510	450	480	300	1380	1050	570	510	270	260
26	1800	1650	540	480	---	---	1470	1290	570	450	310	260
27	---	---	540	480	220	190	1530	1260	---	---	420	320
28	---	---	570	510	280	220	1530	1290	---	---	540	420
29	1350	1320	660	540	280	250	1590	1410	---	---	550	440
30	1470	1320	750	660	370	280	1830	1590	---	---	440	380
31	1530	1410	---	---	490	340	1800	1620	---	---	380	320
MONTH	2730	420	1950	450	1390	130	1830	450	3810	450	1180	220

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	320	310	1050	990	3340	2380	3950	3720	1420	1210	2280	1820
2	370	320	1070	1020	2330	1890	3760	3470	2060	990	2590	2230
3	440	360	1290	1070	1870	630	3510	3190	780	360	2590	1740
4	440	290	1480	1290	600	400	3990	3520	350	310	1670	1390
5	380	290	1630	1390	760	480	3990	2960	350	240	1720	1390
6	370	300	3210	1680	1070	750	4660	3520	240	190	1730	1540
7	460	380	2600	1970	1100	790	3630	2830	440	240	1860	1740
8	570	450	2040	1910	1040	310	3440	530	700	460	2290	1830
9	350	220	2090	1970	450	350	1260	630	810	720	2560	1820
10	290	260	2130	2040	410	330	1270	760	800	530	4310	2510
11	340	290	3480	2050	490	400	810	740	550	490	4350	2040
12	380	340	3520	2430	560	490	820	730	480	400	3330	2260
13	410	350	2440	1890	650	560	1030	820	600	440	3540	2610
14	440	220	1880	940	810	650	1340	1030	770	600	5340	3170
15	260	220	960	630	1050	750	1970	1350	950	790	4920	3550
16	260	220	720	610	660	450	2300	1440	970	910	3620	2090
17	310	260	840	680	530	450	1230	670	1130	950	2780	1130
18	350	310	930	820	770	540	840	740	1330	1150	1050	880
19	400	350	890	800	980	790	1130	850	1490	1290	1030	940
20	640	470	820	700	1300	1000	1630	1150	2480	1500	---	---
21	920	640	760	690	1350	1230	2030	1650	2320	1980	---	---
22	920	800	880	770	1540	1370	2400	2040	2270	1720	---	---
23	1050	920	1090	890	1460	1360	2750	2410	1700	840	---	---
24	1160	1000	1270	1090	1850	1340	2820	2430	790	440	1640	1500
25	1240	1130	1320	1200	2150	1830	2770	2260	440	420	1800	1600
26	1280	1210	1310	1220	2380	2100	2860	2310	420	390	2690	1810
27	1370	1240	1740	1320	2740	2400	2920	2550	460	400	2790	2330
28	1440	1230	1940	1770	3160	2730	4200	2800	700	470	2340	2170
29	1200	1050	2270	1950	3860	3140	4530	2050	940	730	2210	1890
30	1100	1030	2480	2250	3940	3790	2150	870	1400	950	2200	1680
31	---	---	3230	2450	---	---	1190	990	2060	1530	---	---
MONTH	1440	220	3520	610	3940	310	4660	530	2480	190	5340	880
YEAR	5340	130										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.4	7.9	8.5	7.9	7.6	7.4	7.7	7.6	7.8	7.7	---	---
2	8.3	7.8	8.4	8.0	7.6	7.5	7.7	7.6	7.8	7.8	---	---
3	8.2	7.1	8.6	8.0	7.6	7.3	7.8	7.5	7.8	7.7	---	---
4	7.4	7.1	8.3	8.0	7.6	7.5	7.9	7.8	7.8	7.6	---	---
5	7.7	7.3	8.4	7.9	7.9	7.4	7.9	7.8	7.7	7.4	---	---
6	8.2	7.7	8.4	7.9	7.8	7.6	7.9	7.8	7.8	7.6	7.9	7.8
7	8.0	7.4	8.1	7.9	7.6	7.5	7.9	7.8	7.7	7.6	7.9	7.9
8	7.4	7.2	8.1	7.9	7.7	7.5	8.0	7.8	7.8	7.6	8.1	7.8
9	7.5	7.2	8.1	7.8	7.6	7.5	7.9	7.8	7.8	7.7	7.7	7.5
10	7.6	7.4	7.9	7.5	7.8	7.5	7.9	7.9	7.8	7.6	7.6	7.5
11	7.5	7.4	7.5	7.3	7.9	7.7	---	---	7.8	7.6	7.6	7.6
12	7.6	7.2	7.5	7.3	7.9	7.1	---	---	7.7	7.6	7.6	7.5
13	7.7	7.5	7.5	7.4	7.9	7.7	---	---	7.9	7.5	7.5	7.4
14	7.6	7.5	7.7	7.5	7.9	7.7	7.6	7.3	7.9	7.8	7.4	7.3
15	7.5	7.4	7.7	7.6	8.0	7.5	7.7	7.5	7.9	7.9	7.4	7.4
16	7.5	7.4	7.7	7.4	8.0	7.7	7.7	7.6	7.9	7.9	7.5	7.4
17	7.5	7.3	7.5	7.4	7.9	7.7	7.8	7.6	7.9	7.9	7.5	7.4
18	---	---	7.6	7.5	7.8	7.6	7.8	7.7	7.9	7.7	7.4	7.2
19	---	---	7.7	7.5	7.9	7.3	7.8	7.7	7.9	7.8	7.2	7.2
20	---	---	7.8	7.5	8.0	7.6	7.8	7.8	8.0	7.9	7.2	7.2
21	---	---	7.7	7.6	8.1	7.7	7.8	7.8	8.1	8.0	7.4	7.1
22	---	---	---	---	8.0	7.4	7.9	7.8	8.1	7.6	7.1	7.0
23	---	---	---	---	---	---	7.9	7.8	7.7	7.5	7.1	7.1
24	---	---	7.5	7.4	---	---	---	---	7.7	7.5	7.2	7.1
25	---	---	7.5	7.4	---	---	7.8	7.7	7.7	7.6	7.2	7.1
26	---	---	7.5	7.3	---	---	7.8	7.6	---	---	7.2	7.1
27	---	---	7.5	7.4	7.4	7.1	7.8	7.5	---	---	7.3	7.2
28	---	---	7.5	7.4	7.4	7.3	7.8	7.7	---	---	7.4	7.3
29	8.3	7.8	7.5	7.4	7.4	7.3	7.8	7.6	---	---	7.4	7.4
30	8.3	7.9	7.5	7.4	7.5	7.3	7.8	7.6	---	---	7.4	7.4
31	8.3	7.8	---	---	7.6	7.5	7.8	7.8	---	---	7.4	7.3
MONTH	8.4	7.1	8.6	7.3	8.1	7.1	8.0	7.3	8.1	7.4	8.1	7.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.3	7.3	8.7	8.3	8.0	7.8	8.3	7.9	7.8	7.7	7.9	7.7
2	7.3	7.2	8.7	8.2	8.0	7.8	8.3	8.0	7.9	7.7	8.1	7.8
3	7.4	7.3	8.5	8.1	8.1	7.7	8.1	7.8	7.7	7.5	8.2	7.9
4	7.5	7.2	8.3	8.1	7.7	7.6	8.1	7.8	7.5	7.4	8.3	7.9
5	7.3	7.2	8.2	8.0	7.6	7.5	8.0	7.5	7.5	7.3	8.3	8.0
6	7.3	7.2	8.1	8.0	7.7	7.5	7.9	7.8	7.4	7.2	8.4	8.0
7	7.4	7.3	8.3	7.9	7.8	7.7	8.0	7.6	7.4	7.2	8.3	7.9
8	7.6	7.3	8.4	8.1	7.8	7.5	7.9	7.6	7.6	7.4	8.2	8.0
9	7.4	7.2	8.5	8.1	7.8	7.8	7.8	7.6	7.7	7.6	8.2	8.0
10	7.2	7.2	8.4	8.2	7.8	7.7	8.4	7.7	7.8	7.6	8.5	7.9
11	7.3	7.2	8.2	8.1	7.8	7.8	8.4	7.9	7.8	7.6	8.6	8.1
12	7.4	7.3	8.2	8.0	7.8	7.7	7.9	7.7	7.7	7.6	8.7	8.2
13	7.4	7.4	8.2	7.9	7.8	7.7	8.1	7.7	7.7	7.6	8.4	8.0
14	7.5	7.3	8.5	7.9	7.8	7.7	8.1	7.8	7.8	7.7	8.1	8.0
15	7.3	7.1	8.5	7.9	7.8	7.5	8.1	7.9	7.9	7.7	8.0	7.8
16	7.3	7.2	8.5	7.9	7.8	7.7	7.9	7.6	8.1	7.8	8.0	7.8
17	7.3	7.2	8.4	7.9	7.8	7.7	7.8	7.6	8.1	7.9	8.1	7.9
18	7.3	7.3	8.6	7.9	7.8	7.6	7.9	7.6	8.1	7.9	8.3	8.0
19	7.3	7.3	8.7	8.0	7.8	7.6	7.9	7.6	8.2	8.0	8.3	8.0
20	7.4	7.3	8.7	8.1	7.8	7.7	7.9	7.7	8.3	7.9	---	---
21	7.5	7.2	8.6	8.0	8.0	7.8	8.1	7.6	8.3	8.0	---	---
22	7.7	7.4	8.7	8.0	8.2	7.8	7.9	7.6	8.3	8.0	---	---
23	8.0	7.5	8.8	8.0	8.4	7.9	8.4	7.7	8.4	7.9	---	---
24	8.1	7.7	8.5	7.9	8.5	8.1	8.5	7.8	8.2	7.7	8.1	8.0
25	8.2	7.8	8.2	7.9	8.7	8.1	8.6	7.9	7.7	7.6	8.3	8.0
26	8.4	8.0	8.4	7.9	8.4	7.8	8.6	7.9	7.6	7.5	8.2	8.0
27	8.5	8.0	8.3	8.0	8.3	7.7	8.4	7.9	7.5	7.4	8.3	8.2
28	8.3	7.9	8.3	7.9	8.1	7.8	8.0	7.8	7.7	7.4	8.3	8.1
29	8.6	8.4	8.1	7.9	8.2	7.8	7.9	7.6	7.8	7.5	8.2	8.1
30	8.8	8.3	8.0	7.8	8.1	7.8	7.8	7.7	7.8	7.6	8.2	8.1
31	---	---	7.9	7.8	---	---	7.8	7.7	7.9	7.6	---	---
MONTH	8.8	7.1	8.8	7.8	8.7	7.5	8.6	7.5	8.4	7.2	8.7	7.7
YEAR	8.8	7.0										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.0	19.5	11.0	10.0	2.5	1.5	3.5	3.0	1.0	.5	.5	.0
2	20.0	19.0	11.0	9.5	1.5	1.0	3.5	3.0	1.0	.5	.5	.0
3	19.5	17.0	10.5	8.5	1.0	.0	3.0	1.5	1.0	.5	.0	.0
4	17.0	16.0	9.5	7.5	.5	.0	2.5	1.5	1.0	.5	.0	.0
5	16.0	15.0	7.5	6.0	3.5	.5	1.5	1.0	1.0	.5	.5	.0
6	15.5	12.5	7.0	6.5	3.5	3.0	1.5	1.0	1.5	.5	.5	.5
7	12.5	11.0	7.5	6.0	3.0	2.5	1.5	1.0	1.0	.5	.5	.5
8	11.0	11.0	6.0	5.0	3.5	2.0	1.5	1.0	1.0	.5	.5	.5
9	11.5	11.0	6.5	5.0	2.0	1.5	1.5	1.0	1.0	.5	.5	.5
10	11.0	10.0	7.0	6.5	3.0	1.5	2.0	1.0	1.0	.5	2.0	.5
11	10.0	9.0	6.5	5.5	5.0	3.0	2.0	1.0	1.0	.5	1.5	.0
12	10.0	9.0	6.0	4.5	6.0	5.0	1.5	1.0	1.0	.5	1.0	.5
13	9.5	8.5	5.0	4.5	5.0	3.0	---	---	1.5	.5	1.0	.5
14	8.5	8.0	5.0	4.5	3.0	2.5	1.5	1.0	1.0	1.0	1.0	.5
15	9.0	8.0	4.5	4.0	2.5	1.0	2.0	1.5	1.5	1.0	3.0	.5
16	9.5	9.0	4.5	3.5	2.5	1.5	2.0	1.5	1.5	1.0	5.0	2.0
17	10.5	9.5	4.5	3.0	1.5	.5	3.5	2.5	1.5	1.0	5.5	4.5
18	12.5	10.5	5.0	4.0	.5	.0	3.5	2.5	1.5	1.0	4.5	3.0
19	13.5	12.0	6.0	4.5	1.0	.0	2.5	2.5	1.5	1.0	5.0	2.0
20	15.0	13.0	7.5	6.0	1.5	1.0	2.5	2.0	1.5	1.0	6.5	4.0
21	15.5	15.0	7.0	5.5	1.5	1.0	2.5	1.5	1.5	1.0	6.5	3.5
22	---	---	9.5	7.0	3.0	1.0	2.0	1.5	1.0	.5	3.5	2.5
23	---	---	9.5	9.0	4.0	3.0	2.0	1.5	1.0	.5	3.5	2.0
24	12.0	11.0	9.5	8.0	7.0	4.0	---	---	1.5	1.0	4.0	2.5
25	9.5	8.5	8.0	7.0	7.5	6.0	.5	.5	1.5	.5	3.5	3.0
26	8.5	8.0	8.5	7.5	---	---	.5	.0	1.0	.0	4.0	3.0
27	---	---	8.0	7.0	5.0	4.5	.5	.0	.0	.0	5.5	3.0
28	---	---	7.5	5.5	5.0	4.0	.5	.5	---	---	5.5	4.5
29	9.5	8.0	5.5	3.5	4.0	4.0	1.0	.5	1.0	.5	5.5	5.5
30	9.0	7.5	3.5	2.0	3.5	3.5	1.0	.5	---	---	6.5	5.0
31	10.5	7.5	---	---	3.5	3.0	1.0	.5	---	---	6.5	6.0
MONTH	20.0	7.5	11.0	2.0	7.5	.0	3.5	.0	1.5	.0	6.5	.0

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.5	6.0	15.5	13.0	22.5	21.5	25.0	24.0	25.0	24.0	25.5	24.5
2	7.5	6.5	17.0	15.0	22.0	21.0	25.0	24.0	25.5	24.0	26.0	25.5
3	8.5	6.0	18.0	16.5	23.0	20.5	25.0	23.5	23.5	21.5	26.0	25.5
4	8.5	7.0	19.0	18.0	21.0	18.5	25.5	24.0	24.5	21.0	25.5	24.5
5	8.5	6.0	19.0	18.5	21.0	19.0	25.0	24.0	24.5	23.5	25.0	24.0
6	9.5	7.0	19.5	18.5	21.0	19.5	25.5	24.0	24.0	22.0	25.5	24.0
7	9.5	8.0	18.5	17.5	22.0	20.5	24.5	23.5	26.5	22.5	24.5	23.5
8	11.0	9.5	17.5	16.5	21.5	17.0	24.5	22.5	26.5	25.5	24.0	23.0
9	11.0	9.5	16.5	15.5	16.5	15.5	22.5	21.5	27.0	25.0	23.5	22.5
10	10.5	9.0	16.0	15.0	16.0	14.0	24.5	22.0	26.0	23.5	23.0	21.5
11	10.0	8.5	17.0	15.5	17.0	14.5	25.5	23.0	25.0	23.0	23.0	21.0
12	10.0	9.0	17.5	16.5	18.0	16.0	25.5	23.5	24.0	23.5	22.5	21.5
13	9.5	8.0	18.5	16.5	19.5	17.0	23.5	22.0	24.0	23.0	22.0	21.5
14	9.5	8.0	19.0	18.0	20.0	18.0	25.0	23.5	24.5	23.0	23.0	22.0
15	8.5	7.5	18.0	15.5	19.5	18.0	26.0	24.0	25.0	24.0	22.5	21.5
16	7.5	6.5	17.5	15.5	18.5	16.0	27.0	25.5	25.0	22.5	21.5	20.0
17	8.0	5.5	17.0	16.0	19.0	17.0	27.5	25.0	23.5	21.0	20.0	19.0
18	9.5	6.5	17.5	15.5	21.0	18.0	27.0	25.0	21.5	20.5	20.0	18.5
19	11.0	8.0	18.0	16.5	21.5	19.5	28.0	25.5	23.5	21.5	20.0	18.5
20	13.0	11.0	19.0	16.5	21.5	19.0	29.0	27.5	25.5	23.0	---	---
21	14.5	11.5	20.0	18.0	21.0	20.0	30.0	28.5	26.0	24.5	---	---
22	15.0	12.5	21.0	18.5	23.0	21.0	30.0	28.5	26.0	24.5	---	---
23	15.5	14.0	21.0	20.0	23.5	22.0	28.0	27.0	25.5	23.0	---	---
24	15.5	13.5	21.5	21.0	25.0	23.5	28.0	26.5	24.5	23.0	21.0	20.5
25	14.0	13.0	21.5	20.5	26.5	24.5	28.5	26.5	23.5	22.0	20.0	19.5
26	14.5	13.5	21.0	20.5	27.5	25.0	29.5	26.5	23.5	22.5	19.5	18.0
27	14.5	12.5	21.0	20.0	28.5	26.0	28.0	26.0	24.0	22.5	18.0	17.0
28	13.5	12.0	22.0	19.5	28.0	27.0	26.0	25.5	25.0	23.0	17.5	16.5
29	13.5	12.5	21.5	20.0	28.0	26.0	26.5	24.5	24.5	23.5	18.5	17.0
30	13.5	12.5	22.0	21.0	26.0	25.0	26.5	25.0	25.0	24.5	18.5	17.5
31	---	---	22.5	21.5	---	---	26.0	24.0	25.0	24.5	---	---
MONTH	15.5	5.5	22.5	13.0	28.5	14.0	30.0	21.5	27.0	20.5	26.0	16.5
YEAR	30.0	.0										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9.6	6.4	12.3	10.1	11.7	11.3	13.4	13.1	11.4	11.1	---	---
2	9.2	7.3	11.6	9.4	12.3	11.4	13.2	13.0	11.2	11.1	---	---
3	8.7	7.2	12.1	9.7	12.6	11.9	13.3	11.6	11.4	11.1	---	---
4	7.4	7.2	11.8	10.1	12.5	12.1	12.2	11.7	11.3	10.9	---	---
5	7.8	7.4	12.8	10.4	13.2	11.5	12.1	11.9	11.0	10.8	---	---
6	8.0	7.6	13.0	10.5	11.7	11.3	12.0	11.7	11.1	10.8	14.8	13.9
7	8.5	7.9	10.9	10.2	11.6	11.4	12.0	11.7	11.2	10.7	14.3	14.0
8	8.4	8.3	11.5	10.4	11.8	11.5	11.9	11.7	11.1	10.7	14.2	13.9
9	8.5	8.3	11.5	10.7	12.2	11.9	11.9	11.7	11.4	10.9	14.0	13.6
10	8.8	8.5	10.6	10.2	12.4	11.9	11.9	11.7	11.4	11.0	13.8	13.5
11	9.1	8.8	10.7	10.4	12.3	11.6	11.8	11.1	11.4	10.9	14.0	13.6
12	8.9	8.8	11.1	10.7	11.7	11.4	12.2	10.3	11.3	10.9	15.6	14.0
13	9.2	8.8	11.2	10.8	12.1	11.5	---	---	12.5	10.9	15.2	15.1
14	9.3	9.2	12.0	11.0	12.4	11.7	11.4	11.3	14.0	13.4	15.0	14.8
15	9.3	9.1	11.6	11.3	12.6	11.8	11.7	11.2	13.8	13.5	15.4	14.9
16	9.3	9.0	11.7	11.3	12.2	11.8	11.4	11.2	13.9	13.5	15.0	14.4
17	10.5	8.8	11.8	11.4	12.6	11.7	11.3	11.0	13.8	13.4	14.3	13.7
18	10.1	9.7	11.7	11.1	12.6	12.0	11.2	10.9	13.9	13.4	14.5	13.7
19	9.7	9.3	11.8	10.7	15.8	11.9	11.2	11.0	14.1	13.4	14.6	14.0
20	9.4	8.8	11.3	10.3	16.0	14.8	11.2	9.9	14.2	13.6	14.2	13.5
21	9.0	8.4	11.4	10.3	15.9	14.9	10.7	10.5	14.4	13.7	13.8	13.2
22	---	---	10.2	9.5	15.6	14.1	10.7	10.4	14.5	13.0	14.1	13.7
23	---	---	10.0	9.6	14.1	13.9	---	---	14.4	12.4	14.3	14.1
24	8.9	8.5	10.3	9.7	13.8	13.1	---	---	13.9	12.9	14.2	13.8
25	9.7	8.9	10.6	10.3	11.8	9.7	11.1	11.0	13.8	12.8	14.0	13.9
26	10.0	9.5	10.5	10.3	---	---	11.2	11.0	---	---	14.1	13.9
27	---	---	10.6	10.5	13.1	12.6	11.3	11.1	---	---	14.3	13.6
28	---	---	10.7	10.3	12.7	11.7	11.4	11.2	---	---	13.9	13.4
29	12.7	11.6	11.0	10.7	13.5	12.0	11.3	11.1	---	---	13.5	13.2
30	12.6	10.8	11.4	10.9	13.3	13.3	11.3	11.1	---	---	13.5	12.9
31	12.3	10.5	---	---	13.6	13.3	11.3	11.2	---	---	13.8	12.8
MONTH	12.7	6.4	13.0	9.4	16.0	9.7	13.4	9.9	14.5	10.7	15.6	12.8

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	12.8	16.2	13.0	7.7	7.0	10.1	7.4	8.2	7.7	7.5	6.7
2	13.1	12.8	15.8	12.3	8.1	7.0	9.8	8.1	8.1	7.3	7.5	6.7
3	13.2	12.5	14.7	11.6	8.2	6.6	9.0	6.9	8.4	7.6	8.0	6.8
4	12.5	12.2	13.5	11.5	8.3	7.7	9.3	7.2	8.5	7.9	9.0	7.1
5	12.8	12.3	12.9	11.1	8.3	7.8	8.3	7.1	8.2	7.8	8.9	7.5
6	12.7	12.1	11.4	10.6	8.1	7.7	8.5	7.1	8.4	7.7	9.2	7.6
7	12.5	12.1	12.0	10.6	8.2	7.4	8.9	6.4	8.1	7.9	8.9	7.5
8	12.1	11.5	12.3	11.1	8.8	7.5	8.4	7.3	8.0	7.6	9.0	7.0
9	11.9	11.3	12.7	11.2	9.0	8.8	8.1	7.3	8.5	7.7	8.8	8.0
10	11.8	11.4	12.9	11.8	9.3	9.0	11.4	7.9	8.3	7.7	10.4	7.6
11	12.0	11.7	12.3	11.5	9.6	9.1	10.3	7.8	8.4	8.0	11.0	8.3
12	11.9	11.7	11.8	11.0	9.4	9.0	8.8	7.5	8.5	7.9	12.0	8.6
13	12.4	11.9	11.6	10.3	9.3	8.8	9.4	7.7	8.9	8.3	9.9	8.4
14	12.2	11.9	12.9	9.9	9.0	8.4	9.5	7.9	9.0	7.6	8.3	7.8
15	12.1	11.9	13.6	10.4	8.6	8.0	9.6	8.0	9.1	7.5	7.7	6.4
16	14.4	12.1	13.4	10.7	9.2	6.3	8.6	6.4	10.0	8.3	7.5	6.3
17	14.1	13.4	12.5	10.6	9.1	6.7	7.9	6.9	10.0	8.6	9.0	7.2
18	13.7	12.9	13.3	10.7	9.0	8.4	8.6	7.1	10.2	9.5	9.9	7.9
19	13.3	12.4	13.7	10.5	8.8	7.9	8.5	7.0	10.8	9.5	9.7	8.0
20	12.6	12.1	13.7	10.6	8.4	7.6	8.2	7.2	10.2	8.0	---	---
21	12.3	11.8	13.3	10.2	8.5	7.7	8.0	6.9	9.6	7.5	---	---
22	12.6	11.4	13.7	10.0	9.2	7.8	7.8	6.6	7.5	6.4	---	---
23	12.7	11.1	13.5	9.6	9.0	7.8	11.2	6.8	9.6	7.0	---	---
24	13.1	11.2	12.3	8.8	10.2	8.6	11.8	8.2	8.2	7.4	9.0	7.7
25	13.7	11.6	10.8	9.4	10.5	7.9	13.5	8.7	8.2	7.5	9.8	7.7
26	14.3	12.0	11.4	9.4	9.8	6.0	11.0	7.7	8.1	7.5	9.2	8.2
27	15.0	11.8	11.3	9.6	8.5	4.8	10.5	7.0	8.0	7.5	9.3	8.8
28	15.0	11.9	10.6	8.6	7.4	4.8	9.1	7.6	8.2	7.5	9.5	9.0
29	15.1	11.9	8.7	7.8	9.8	6.0	8.4	6.9	8.1	7.2	9.4	9.1
30	16.1	11.9	8.1	7.0	8.2	6.9	8.4	7.1	8.2	6.8	9.3	8.8
31	---	---	7.8	7.0	---	---	8.2	7.2	7.9	6.8	---	---
MONTH	16.1	11.1	16.2	7.0	10.5	4.8	13.5	6.4	10.8	6.4	12.0	6.3
YEAR	16.2	4.8										

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
11...	1330	--	332	7.5	--	36	46	7.1	267	.36
11...	1430	3450	311	7.1	24	33	42	6.8	226	.31
11...	1530	3370	319	7.5	30	40	44	6.9	229	.31
11...	1630	3250	322	7.5	20	37	45	7.1	266	.36
11...	1730	3190	332	7.5	23	36	46	7.1	267	.36
11...	1830	3180	340	7.6	28	38	48	7.1	264	.36
11...	1930	3100	343	7.5	26	37	49	7.1	252	.34
11...	2030	3040	344	7.5	22	36	49	7.2	287	.39
11...	2130	3020	346	7.5	32	36	50	7.0	253	.34
11...	2230	2990	351	7.5	28	40	51	7.1	261	.35
11...	2330	2910	354	7.4	24	39	52	7.1	281	.38
12...	0030	2880	358	7.5	21	36	52	7.1	286	.39
12...	0130	2860	356	7.4	25	36	52	7.1	261	.35
12...	1000	2590	365	7.4	26	42	57	7.1	273	.37
12...	1230	2520	354	7.6	29	38	53	7.2	260	.35
12...	1430	2470	383	7.6	24	33	62	7.1	273	.37
12...	1630	2380	394	7.6	30	33	64	7.1	296	.40
12...	1830	2290	393	7.7	19	35	64	7.1	294	.40
12...	2030	2250	397	7.6	24	36	69	7.2	301	.41
12...	2230	2180	399	7.6	25	35	66	7.1	289	.39
13...	0030	2080	404	7.7	22	37	68	7.3	294	.40
13...	0230	2010	404	7.7	31	38	68	7.1	299	.41
13...	0430	1970	409	7.7	35	38	70	7.1	300	.41
13...	0630	2040	392	7.7	25	38	64	7.2	296	.40
13...	0830	2300	371	7.7	24	37	57	7.2	275	.37
13...	1030	2400	355	7.6	23	38	51	7.1	249	.34
18...	1000	654	836	7.6	19	43	175	7.3	666	.91
MAR										
09...	0900	--	266	7.4	71	30	--	3.9	166	.23
09...	1300	--	265	7.4	80	29	39	3.7	125	.17
09...	2100	--	259	7.4	91	29	39	3.7	--	--
10...	0100	--	264	7.4	73	28	39	3.9	232	.32
10...	0500	--	267	7.4	75	29	40	3.7	242	.33
10...	0900	--	280	7.4	83	30	44	3.8	223	.30
10...	1300	--	318	7.3	87	30	54	3.7	231	.31
10...	1700	--	325	7.4	96	31	56	3.8	263	.36
10...	2100	--	304	7.3	97	32	50	3.9	264	.36
11...	0100	--	303	7.4	88	33	50	3.9	244	.33
11...	0830	--	292	7.2	57	32	48	3.8	236	.32
21...	2100	7560	242	7.1	141	--	--	3.1	124	.17

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
11...	--	50	.53	.00	--	--	--	--	--	--
11...	2110	66	.57	.00	.74	.74	1.3	5.8	.083	8.5
11...	2080	54	.57	.00	1.1	1.1	1.7	7.4	.094	10
11...	2330	52	.55	.00	.69	.69	1.2	5.5	.085	7.8
11...	2300	50	.53	.00	.75	.75	1.3	5.7	.080	7.9
11...	2270	47	.52	.00	.60	.60	1.1	5.0	.081	7.9
11...	2110	47	.56	.00	.14	.15	.71	3.1	.081	7.8
11...	2360	44	.51	.00	.67	.67	1.2	5.2	.079	8.0
11...	2060	41	.55	.00	.76	.77	1.3	5.8	.075	7.8
11...	2110	48	.49	.00	.70	.71	1.2	5.3	.069	8.1
11...	2210	44	.47	.00	.69	.69	1.2	5.1	.078	8.6
12...	2220	39	.48	.00	.66	.66	1.1	5.0	.063	8.0
12...	2020	40	.54	.00	.83	.83	1.4	6.1	.071	7.9
12...	1910	26	.50	.00	.70	.70	1.2	5.3	.068	7.2
12...	1770	35	.55	.00	.61	.61	1.2	5.1	.063	7.3
12...	1820	25	.49	.00	.57	.57	1.1	4.7	.058	7.4
12...	1900	24	.47	.00	.60	.60	1.1	4.7	.060	7.4
12...	1820	24	.48	.00	.53	.53	1.0	4.5	.061	7.5
12...	1830	28	.49	.00	.64	.64	1.1	5.0	.063	7.3
12...	1700	25	.47	.00	.67	.67	1.1	5.0	.061	7.5
13...	1650	26	.51	.00	.68	.68	1.2	5.3	.062	7.7
13...	1620	27	.49	.00	.52	.53	1.0	4.5	.057	7.7
13...	1600	28	.51	.00	.64	.64	1.1	5.1	.057	7.6
13...	1630	25	.51	.00	.62	.62	1.1	5.0	.057	7.6
13...	1710	29	.50	.00	.59	.59	1.1	4.8	.062	7.6
13...	1610	34	.50	.00	.49	.49	.99	4.4	.064	7.7
18...	1180	16	.53	.00	.61	.61	1.1	5.0	.045	7.4
MAR										
09...	--	130	.85	.11	.77	.88	1.7	7.7	.128	6.5
09...	--	244	.88	.12	1.1	1.1	2.1	9.2	.190	6.8
09...	--	190	.83	.13	1.0	1.1	2.0	8.9	.175	7.4
10...	--	136	.79	.16	.88	1.0	1.8	8.1	.146	6.7
10...	--	132	.81	.16	.83	1.0	1.8	8.0	.151	6.8
10...	--	153	.81	.16	.89	1.0	1.9	8.3	.171	7.1
10...	--	180	.81	.25	.99	1.2	2.0	9.1	.194	7.2
10...	--	186	.78	.15	.98	1.1	1.9	8.5	.196	7.2
10...	--	202	.81	.17	.94	1.1	1.9	8.5	.186	7.0
11...	--	191	.83	.16	1.0	1.1	2.0	8.9	.195	6.7
11...	--	130	.76	.14	.89	1.0	1.8	8.0	.146	6.9
21...	2530	853	.89	.00	2.1	2.0	3.0	13	.505	8.1

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
MAR									
22...	0100	6830	264	7.2	122	3.1	137	.19	2530
22...	0500	6640	241	7.2	138	2.8	124	.17	2220
22...	0900	6480	236	7.2	121	2.8	127	.17	2220
22...	1300	6200	236	7.3	154	2.8	127	.17	2130
22...	1700	6110	239	7.3	100	2.8	125	.17	2060
22...	2100	5800	243	7.2	93	2.8	127	.17	1990
23...	0100	5340	258	7.4	90	2.8	143	.19	2060
23...	0500	4960	250	7.3	89	2.9	191	.26	2560
23...	0900	4500	251	7.0	75	2.9	154	.21	1870
23...	1300	4130	260	7.2	77	2.9	169	.23	1890
23...	1700	3740	268	7.2	77	3.0	203	.28	2050
26...	1400	3110	300	7.1	74	2.9	233	.32	1960
APR									
14...	1530	1890	385	7.8	45	2.0	210	.29	1070
14...	1730	2120	368	7.6	65	2.6	120	.16	687
14...	1930	2680	313	7.7	27	2.8	--	--	--
14...	2130	4080	262	7.6	77	2.8	--	--	--
14...	2330	5410	--	--	59	3.3	106	.14	1550
15...	0130	5710	232	7.2	68	2.8	--	--	--
15...	0330	5500	243	7.4	74	2.7	--	--	--
15...	0530	5050	243	7.4	65	2.6	--	--	--
15...	0730	4800	251	7.5	78	2.5	104	.14	1350
15...	0930	4860	257	7.5	71	2.5	109	.15	1430
15...	1130	5000	265	7.7	51	2.5	114	.16	1540
15...	1330	5010	244	7.6	54	2.5	142	.19	1920
16...	1000	4120	245	7.1	28	2.5	108	.15	1200
JUN									
08...	1300	1330	394	7.0	--	3.9	--	--	--
08...	1500	1320	415	7.2	--	3.9	--	--	--
08...	1700	1190	429	7.5	--	3.9	--	--	--
08...	1900	1080	456	7.5	--	4.0	--	--	--
08...	2100	1080	432	7.6	--	4.1	--	--	--
08...	2300	1080	459	7.7	--	4.2	--	--	--
09...	0100	1080	460	7.7	--	4.3	--	--	--
09...	0300	1080	457	7.7	--	4.2	--	--	--
09...	0500	1100	447	7.8	--	4.2	--	--	--
09...	0700	1130	449	7.6	--	4.2	--	--	--
09...	0900	1160	456	7.5	--	4.3	--	--	--
09...	1100	1180	467	7.6	--	4.4	--	--	--
12...	1300	1080	543	7.4	--	4.3	--	--	--

04212200 GRAND RIVER AT PAINESVILLE, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAR									
22...	540	.77	.00	1.5	1.4	2.2	10	.369	7.6
22...	523	.74	.00	1.6	1.6	2.4	11	.361	7.6
22...	414	.70	.00	1.5	1.5	2.2	9.7	.325	7.7
22...	311	.70	.01	1.3	1.2	2.0	8.8	.278	7.5
22...	274	.73	.00	1.2	1.1	1.9	8.4	.233	8.1
22...	241	.71	.00	1.1	1.0	1.8	7.8	.228	7.6
23...	189	.75	.00	1.0	1.0	1.8	8.0	.213	7.8
23...	157	.74	.00	.98	.99	1.7	7.7	.165	7.6
23...	133	.71	.01	.94	.96	1.7	7.4	.167	7.9
23...	128	.70	.01	.17	.18	.88	3.9	.158	8.2
23...	138	.67	.00	1.0	1.0	1.7	7.4	.162	7.8
26...	82	.55	.00	.69	.70	1.2	5.5	.083	7.4
APR									
14...	122	.43	.00	.84	.85	1.3	5.7	.138	--
14...	162	.41	.05	.88	.93	1.3	5.9	.164	--
14...	348	.47	.02	1.3	1.2	1.7	7.7	.277	--
14...	708	.51	.00	1.9	1.8	2.4	11	.444	--
14...	581	.37	.00	1.7	1.6	2.0	9.0	.394	--
15...	447	.47	.02	1.4	1.4	1.9	8.5	.305	--
15...	323	.48	.02	1.2	1.2	1.7	7.6	.256	--
15...	247	.41	.02	1.1	1.1	1.5	6.9	.198	--
15...	228	.38	.06	1.0	1.1	1.5	6.6	.187	--
15...	250	.38	.02	1.1	1.0	1.5	6.5	.208	--
15...	277	.36	.01	1.2	1.2	1.6	6.9	.220	--
15...	255	.41	.17	1.0	1.1	1.6	7.1	.231	--
16...	131	.38	.02	.91	.94	1.3	5.8	.138	--
JUN									
08...	268	1.0	.02	1.2	1.2	2.2	9.8	.220	--
08...	215	.75	.02	1.2	1.1	1.9	8.5	.192	--
08...	194	.87	.02	.98	1.0	1.9	8.3	.191	--
08...	134	.87	.02	.54	.57	1.4	6.4	.157	--
08...	106	.82	.04	.91	.95	1.8	7.8	.129	--
08...	82	.83	.01	.92	.94	1.8	7.8	.115	--
09...	70	.86	.03	.46	.50	1.4	6.0	.103	--
09...	67	.82	.00	1.0	1.0	1.8	8.2	.097	--
09...	72	.77	.03	.93	.96	1.7	7.7	.095	--
09...	95	.80	.02	1.0	1.0	1.9	8.3	.103	--
09...	76	.84	.04	.92	.96	1.8	8.0	.098	--
09...	65	.77	.07	1.0	1.1	1.9	8.3	.107	--
12...	37	.83	.03	.78	.81	1.6	7.3	.090	--

04212700 ASHTABULA RIVER AT ASHTABULA, OH

LOCATION.--Lat 41°26'51", long 81°41'05", Cuyahoga County, Hydrologic Unit 04110002, at bridge on Harvard Avenue in Cleveland and 0.2 mi (0.3 km) downstream from Big Creek.

DRAINAGE AREA.--786 mi² (2,036 km).

PERIOD OF RECORD.--October 1977 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)
OCT										
11...	1700	965	221	7.4	30	35	18	6.3	108	.15
11...	1800	940	219	7.5	29	30	18	6.1	110	.15
11...	1900	908	223	7.5	29	37	19	6.2	134	.18
11...	2000	881	225	7.5	31	31	19	6.0	131	.18
11...	2100	853	219	7.6	32	27	18	6.2	134	.18
11...	2200	826	220	7.6	28	31	19	6.1	137	.19
11...	2300	799	215	7.6	28	32	18	6.1	142	.19
11...	2400	772	221	7.5	31	30	19	6.1	156	.21
12...	0100	738	225	7.6	24	31	20	6.2	164	.22
12...	0200	713	220	7.5	24	27	19	6.2	134	.18
12...	0300	697	228	7.5	--	32	21	6.3	170	.23
12...	0400	665	232	7.5	38	29	21	6.3	136	.18
12...	1000	561	229	7.4	27	25	19	6.3	146	.20
12...	1100	540	236	7.5	19	26	21	6.3	132	.18
12...	1200	533	228	7.5	23	26	19	6.3	164	.22
12...	1300	520	232	7.5	24	28	19	6.3	155	.21
12...	1400	520	233	7.5	22	29	20	6.4	153	.21
12...	1500	506	233	7.4	22	34	22	6.4	187	.25
12...	1600	500	228	7.4	20	31	21	6.4	169	.23
18...	1400	83	318	7.2	12	44	43	5.9	243	.33
NOV										
22...	2200	673	273	7.4	33	41	21	5.4	--	--
22...	2400	881	264	7.3	26	41	20	5.3	--	--
23...	0200	1010	267	7.2	22	40	20	5.2	--	--
23...	0400	1060	251	7.2	25	40	20	5.1	--	--
23...	0600	1080	242	7.3	27	38	18	4.8	--	--
23...	0800	1040	235	7.3	26	34	17	4.8	--	--
23...	1000	993	236	7.3	29	35	17	5.2	--	--
23...	1200	957	231	7.6	28	33	18	5.3	--	--
23...	1400	900	219	7.3	26	34	16	5.4	--	--
23...	1600	826	229	7.4	25	34	15	5.7	--	--
23...	1800	764	216	7.4	25	33	16	5.8	96	.13
28...	1100	216	205	7.4	22	34	12	6.2	85	.12
DEC										
24...	2100	1740	164	7.1	31	26	13	3.5	--	--
24...	2130	1770	168	7.1	34	26	14	3.5	--	--
24...	2330	1880	167	7.2	31	27	13	3.5	--	--
25...	0130	1940	162	7.2	40	23	14	3.4	--	--
25...	0330	2000	164	7.2	33	26	13	3.4	--	--
25...	0530	2090	158	7.2	98	28	12	3.5	--	--
25...	0730	2420	160	7.2	36	26	13	3.4	--	--

04212700 ASHTABULA RIVER AT ASHTABULA, OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
11...	280	28	.48	.01	1.1	1.1	1.6	7.0	.111	7.4
11...	278	26	.49	.02	.76	.79	1.3	5.7	.077	7.8
11...	329	23	.44	.00	.72	.73	1.2	5.2	.072	7.8
11...	310	25	.46	.00	.74	.74	1.2	5.3	.064	7.2
11...	309	26	.48	.00	.57	.57	1.0	4.6	.061	7.2
11...	306	31	.46	.00	.86	.86	1.3	5.8	.062	7.2
11...	306	25	.46	.00	.42	.42	.88	3.9	.060	6.7
11...	325	20	.43	.00	.11	.11	.54	2.4	.057	6.9
12...	327	16	.44	.00	.67	.67	1.1	4.9	.054	7.1
12...	257	17	.44	.00	.57	.57	1.0	4.5	.056	7.0
12...	319	15	.42	--	--	--	--	--	--	--
12...	243	17	.40	.00	.58	.58	.98	4.3	.051	7.4
12...	221	17	.39	.05	.19	.24	.63	2.8	.044	7.5
12...	192	13	.38	.03	.01	.04	.42	1.9	.057	7.8
12...	236	12	.39	.01	.53	.55	.94	4.2	.045	7.7
12...	218	10	.37	.04	.59	.63	1.0	4.4	.056	7.7
12...	215	10	.37	.02	.42	.44	.81	3.6	.049	7.6
12...	255	8	.38	.00	.57	.57	.95	4.2	.044	7.7
12...	228	10	.36	.02	.30	.32	.68	3.0	.055	7.9
18...	54.5	9	.32	.00	.52	.53	.85	3.8	.024	6.0
NOV										
22...	--	45	.31	.02	.67	.69	1.0	4.4	.071	5.9
22...	--	38	.32	.02	.68	.70	1.0	4.5	.069	5.8
23...	--	36	.33	.04	.53	.58	.91	4.0	.064	5.6
23...	--	43	.21	.30	.40	.71	.92	4.1	.071	5.5
23...	--	38	.23	.04	--	.00	.23	1.0	.078	5.8
23...	--	42	.24	.04	.73	.77	1.0	4.5	.091	6.2
23...	--	41	.24	.04	.74	.78	1.0	4.5	.087	6.5
23...	--	35	.23	.01	.74	.76	.99	4.4	.098	6.4
23...	--	29	.21	.06	.69	.75	.96	4.2	.081	6.5
23...	--	23	.25	.07	.62	.69	.94	4.2	.066	6.3
23...	198	22	.24	.02	.66	.68	.92	4.1	.064	6.4
28...	49.6	7	.19	.01	.55	.57	.76	3.4	.041	5.6
DEC										
24...	--	198	.41	.00	1.1	1.1	1.5	6.8	.175	8.0
24...	--	198	.00	.01	1.0	1.0	1.1	4.7	.183	7.1
24...	--	175	.00	.00	1.2	1.1	1.2	5.1	.182	7.6
25...	--	196	.00	.00	1.3	1.3	1.3	5.9	.207	7.9
25...	--	199	.00	.00	1.2	1.2	1.2	5.5	.184	7.8
25...	--	175	.44	.03	1.2	1.2	1.7	7.5	.182	8.0
25...	--	212	.38	--	--	1.1	1.5	6.8	.183	7.7

04212700 ASHTABULA RIVER AT ASHTABULA, OH

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
DEC										
25...	0930	2730	156	7.2	41	26	12	3.4	--	--
25...	1130	3260	137	7.2	59	27	9.8	3.2	--	--
27...	1230	760	113	7.2	21	17	7.4	3.2	--	--
APR										
14...	1800	850	228	7.1	75	--	--	1.5	115	.16
14...	2000	1060	202	7.5	63	--	--	1.4	148	.20
14...	2200	1150	192	7.5	83	--	--	1.7	96	.13
14...	2400	1200	179	7.5	63	--	--	1.7	83	.11
15...	0200	1430	177	7.4	146	--	--	1.9	77	.10
15...	0400	1490	164	7.4	85	--	--	1.9	66	.09
15...	0600	1500	155	7.5	69	--	--	1.9	64	.09
15...	0800	1450	153	7.4	87	--	--	1.9	86	.12
15...	1000	1350	146	7.5	65	--	--	1.9	86	.12
16...	0900	650	206	7.1	49	--	--	2.0	77	.10
JUN										
03...	0600	995	--	--	--	--	--	2.2	--	--
03...	0800	1520	--	--	--	--	--	2.4	--	--
03...	1000	1690	--	--	--	--	--	2.2	--	--
03...	1200	1770	--	--	--	--	--	2.2	--	--
03...	1400	1910	--	--	--	--	--	2.2	--	--
03...	1600	2070	--	--	--	--	--	2.2	--	--
04...	2100	495	--	--	--	--	--	4.0	--	--
05...	1200	262	--	--	--	--	--	3.6	--	--

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
DEC										
25...	--	331	.39	.01	1.4	1.3	1.8	7.8	.248	8.0
25...	--	616	.31	.00	1.8	1.8	2.1	9.4	.358	8.2
27...	--	46	.26	.05	.51	.56	.82	3.6	.077	6.6
APR										
14...	264	135	.11	.03	.93	.97	1.1	4.8	.132	--
14...	424	213	.34	.07	1.3	1.3	1.7	7.6	.354	--
14...	298	231	.28	.01	1.3	1.3	1.6	7.1	.251	--
14...	269	212	.25	.01	1.1	1.1	1.4	6.2	.272	--
15...	297	213	.26	.01	1.1	1.1	1.4	6.0	.201	--
15...	266	242	.23	.05	1.2	1.2	1.5	6.6	.468	--
15...	259	260	.21	.03	1.2	1.2	1.4	6.3	.232	--
15...	337	206	.23	.04	1.2	1.2	1.5	6.6	.455	--
15...	313	156	.22	.06	.90	.97	1.2	5.3	.212	--
16...	135	32	.24	.04	.50	.55	.79	3.5	.054	--
JUN										
03...	--	1042	.58	.00	3.2	3.2	3.8	17	.593	--
03...	--	1166	1.6	.00	4.1	4.1	5.8	26	.808	--
03...	--	782	1.9	.00	3.0	2.9	4.9	22	.488	--
03...	--	475	1.1	.00	1.6	1.6	2.7	12	.310	--
03...	--	547	1.0	.00	1.9	1.9	3.0	13	.401	--
03...	--	610	1.2	.01	--	--	--	--	--	--
04...	--	26	1.0	.05	.03	.08	1.1	5.0	.076	--
05...	--	13	.85	.03	.88	.92	1.8	7.8	.068	--

04213000 CONNEAUT CREEK AT CONNEAUT, OH

LOCATION.--Lat 41°55'37", long 80°36'15", Ashtabula County, Hydrologic Unit 04120101, on right bank at downstream side of Keefus Road bridge at Conneaut, and 6.4 mi (10.3 km) upstream from mouth.

DRAINAGE AREA.--175 mi² (453 km²).

PERIOD OF RECORD.--July 1922 to December 1935, March 1950 to September 1961 (published as "at Amboy"), October 1961 to current year.

REVISED RECORDS.--WSP 714: 1926. WSP 784: 1933. WSP 1437: 1923-25(M), 1926-30, 1931-32(M), 1933, 1935(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.30 ft (186.019 m) National Geodetic Vertical Datum of 1929, unadjusted. Prior to Aug. 17, 1924, nonrecording gage at same site and datum.

REMARKS.--Records good except those for the winter periods, which are fair. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--43 years, 264 ft³/s (7.476 m³/s), 20.49 in/yr (520 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s (481 m³/s) Jan. 22, 1959, gage height, 11.70 ft (3.566 m); maximum gage height, 12.94 ft (3.944 m) Mar. 4, 1934 (backwater from ice); minimum discharge, 0.2 ft³/s (0.006 m³/s) July 31, Aug. 1, 1933, Aug. 1, 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,900 ft³/s (82.1 m³/s) and maximums (*):

Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft³/s)	Discharge (m³/s)	Gage height (ft)	Gage height (m)
Dec. 26	1300	*10400	295	9.76	2.975	July 9	0400	4740	134	7.26	2.213
Feb. 23	2400	2990	84.7	6.19	1.887	Aug. 3	1800	4060	115	6.87	2.094
Mar. 9	1000	ice	jam	*10.32	3.146						

Minimum daily discharge, 32 ft³/s (0.91 m³/s) May 28-30, June 26, 29, July 2, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	98	248	220	50	100	986	152	40	33	121	44
2	39	102	231	190	48	80	553	109	98	32	342	59
3	34	236	221	172	46	70	356	85	1300	33	2370	510
4	52	194	206	148	44	65	481	72	2390	32	2320	289
5	60	139	227	124	42	90	737	62	432	35	775	121
6	117	107	503	90	40	110	418	56	172	49	1460	75
7	302	102	656	85	38	100	245	50	150	44	932	57
8	1320	145	598	75	37	400	166	47	480	1010	740	47
9	650	162	471	70	36	1500	347	43	583	2660	1380	42
10	322	536	295	65	36	852	438	41	312	268	1040	40
11	743	1120	233	220	36	980	305	44	246	126	735	41
12	717	400	256	2080	36	573	240	44	135	84	702	41
13	558	227	224	1320	36	293	346	59	87	63	480	42
14	1360	172	207	372	36	191	531	92	64	51	232	43
15	1410	215	167	263	36	130	1120	236	90	45	151	51
16	422	616	135	253	35	144	762	134	998	44	118	53
17	231	776	113	241	35	427	410	90	685	680	94	48
18	164	348	80	455	35	1330	245	81	196	308	80	51
19	128	224	70	400	35	825	180	138	105	137	71	52
20	103	179	65	241	35	431	144	221	72	83	71	45
21	86	165	92	173	50	512	120	136	87	60	69	41
22	74	244	224	137	200	1250	103	88	69	66	68	38
23	67	698	925	121	1900	697	90	68	50	94	273	44
24	65	916	1340	65	2080	554	80	54	40	81	227	41
25	74	1060	4190	90	700	1470	72	45	35	57	115	45
26	110	570	8640	108	360	876	65	39	32	44	76	42
27	192	617	2760	80	200	366	63	35	33	38	63	40
28	211	374	627	70	192	264	75	32	34	66	52	41
29	186	353	386	65	145	325	111	32	32	393	47	42
30	154	311	302	60	---	509	154	32	33	297	42	43
31	124	---	258	55	---	461	---	35	---	256	42	---
TOTAL	10118	11406	24970	8108	6659	15975	9963	2452	9080	7269	15288	2168
MEAN	326	380	805	262	230	515	332	79.1	303	234	493	72.3
MAX	1410	1120	8640	2080	2080	1500	1120	236	2390	2660	2370	510
MIN	34	98	65	55	35	65	63	32	32	32	42	38
CFSM	1.86	2.17	4.60	1.50	1.31	2.94	1.90	.45	1.73	1.34	2.82	.41
IN.	2.15	2.42	5.31	1.72	1.42	3.40	2.12	.52	1.93	1.55	3.25	.46

CAL YR 1979 TOTAL 153172.5 MEAN 420 MAX 8640 MIN 8.5 CFSM 2.40 IN 32.56
WTR YR 1980 TOTAL 123456.0 MEAN 337 MAX 8640 MIN 32 CFSM 1.93 IN 26.24

04213000 CONNEAUT CREEK AT CONNEAUT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
OCT										
11...	1700	961	248	7.1	60	48	19	5.9	229	.31
11...	1730	976	224	7.2	36	40	15	6.2	165	.22
11...	1800	998	224	7.3	31	41	15	6.3	161	.22
11...	1830	1010	225	7.2	22	39	16	6.3	185	.25
11...	1900	1030	224	7.3	16	40	16	6.3	171	.23
11...	1930	1040	226	7.2	15	36	15	6.3	170	.23
11...	2000	1050	227	7.2	20	39	15	6.3	177	.24
11...	2030	1050	225	7.2	17	36	15	6.3	171	.23
11...	2100	1060	224	7.2	24	36	15	6.3	163	.22
11...	2130	1060	221	7.2	13	40	15	6.2	181	.25
11...	2200	1060	219	7.1	23	36	15	6.3	171	.23
11...	2230	1060	216	7.2	21	36	15	6.2	180	.24
12...	0800	793	187	6.9	31	45	12	5.9	154	.21
12...	0900	754	189	7.2	20	33	11	6.1	162	.22
12...	1000	727	192	7.1	16	46	10	6.1	156	.21
12...	1100	693	186	7.1	20	35	11	6.0	145	.20
12...	1200	665	183	7.4	39	34	10	6.1	152	.21
12...	1300	642	184	7.4	19	33	10	6.1	158	.21
12...	1400	620	186	7.4	8	37	10	6.1	153	.21
12...	1500	601	190	7.5	16	38	11	6.1	135	.18
12...	1700	565	190	7.4	21	40	11	6.1	144	.20
12...	1800	551	186	7.3	19	38	11	6.2	153	.21
12...	1900	536	190	7.4	16	40	12	6.2	172	.23
12...	2000	524	190	7.3	25	41	12	6.2	161	.22
18...	1300	162	225	7.3	15	48	13	6.0	183	.25
NOV										
10...	0100	188	299	7.8	--	41	22	4.8	166	.23
10...	0300	227	315	7.7	--	44	24	5.0	178	.24
10...	0500	292	321	7.6	--	45	25	5.3	202	.27
10...	0700	406	308	7.7	--	44	22	5.6	212	.29
10...	0900	452	279	7.6	--	44	19	5.8	186	.25
10...	1100	425	260	7.6	--	40	16	5.8	135	.18
10...	1300	383	253	7.5	--	39	16	5.9	110	.15
10...	1500	389	246	7.6	--	39	15	6.0	112	.15
10...	1700	586	246	7.5	--	36	15	6.0	108	.15
10...	1900	787	245	7.4	--	36	15	6.4	161	.22
10...	2100	961	250	7.6	--	34	17	7.0	153	.21
28...	0930	372	192	7.4	--	29	9.9	6.8	142	.19

04213000 CONNEAUT CREEK AT CONNEAUT, OH--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS-SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
11...	594	113	.01	.02	.74	.77	.78	3.5	.114	6.7
11...	435	74	.33	.00	.62	.62	.95	4.2	.060	6.1
11...	434	74	.35	.00	.58	.58	.93	4.1	.064	5.8
11...	504	56	.37	.00	.52	.52	.89	3.9	.065	8.9
11...	476	78	.35	.00	.49	.49	.84	3.7	.059	9.1
11...	477	34	.36	.00	.57	.57	.93	4.1	.057	8.8
11...	502	53	.36	.00	.57	.57	.93	4.1	.060	9.0
11...	485	52	.36	.00	.49	.49	.85	3.8	.064	8.5
11...	467	54	.38	.00	.74	.74	1.1	5.0	.065	8.9
11...	518	57	.39	.00	.64	.64	1.0	4.6	.059	9.0
11...	489	56	.36	.00	.59	.60	.96	4.2	.052	8.5
11...	515	59	.37	.03	.60	.64	1.0	4.5	.060	8.8
12...	330	31	.37	.01	.72	.73	1.1	4.9	.065	5.5
12...	330	46	.35	.00	.60	.60	.95	4.2	.096	10
12...	306	41	.35	.01	.51	.53	.88	3.9	.051	10
12...	271	40	.33	.01	.54	.56	.89	3.9	.056	10
12...	273	36	.34	.02	.55	.58	.92	4.1	.051	10
12...	274	35	.33	.04	.48	.53	.86	3.8	.055	10
12...	256	36	.31	.02	.55	.57	.88	3.9	.057	5.1
12...	219	31	.31	.03	.54	.57	.88	3.9	.053	5.5
12...	220	40	.36	.05	.55	.60	.96	4.2	.068	5.3
12...	228	49	.32	.03	.39	.42	.74	3.3	.082	5.3
12...	249	54	.33	.01	.35	.37	.70	3.1	.073	5.4
12...	228	53	.31	.03	.35	.39	.70	3.1	.078	5.2
18...	80.0	14	.27	.09	.21	.30	.57	2.5	.024	3.5
NOV										
10...	84.3	27	.01	.00	.41	.42	.43	1.9	.059	4.7
10...	109	36	.11	.03	.51	.54	.65	2.9	.074	5.2
10...	159	74	.10	.02	.54	.56	.66	2.9	.123	5.1
10...	232	101	.14	.04	.65	.70	.84	3.7	.121	5.4
10...	227	90	.21	.01	.68	.70	.91	4.0	.104	5.8
10...	155	66	.21	.03	--	--	--	--	--	--
10...	114	47	.09	.01	.77	.79	.88	3.9	.061	5.7
10...	118	42	.23	.00	.65	.66	.89	3.9	.058	5.2
10...	171	86	.38	.02	--	--	--	--	.000	--
10...	342	113	.33	.02	1.1	1.0	1.4	6.2	.122	5.3
10...	397	98	.30	.01	.75	.76	1.1	4.7	1.198	5.1
28...	143	15	.15	.02	--	.00	.15	.70	.047	5.3

As the number of streams on which discharge and chemical quality data information is likely to be desired far exceeds the number of stations feasible to operate at one time, the Geological Survey collects limited data at sites other than regular stations. When limited data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are useable in low-flow or floodflow analyses, depending on the type data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two parts. Given first are records of discharge measurements and chemical-quality data made at low-flow sites followed by a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a second table.

LOW-FLOW PARTIAL-RECORD STATIONS

Measurements of streamflow and chemical quality data in the area covered by this report made at low-flow partial-record stations are given in the following section. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The "PERIOD OF RECORD" paragraph shows the water years in which measurements were made at the same, or practically the same, site.

Also, included in this report are six discharge measurements made at low-flow partial-record stations during water years 1978-79, not previously published.

04180935 ST. MARYS RIVER AT ST. MARYS, OH

LOCATION.--Lat 40°32'35", long 84°23'18", in SW 1/4 sec. 3, T.6 S., R.4 E., Auglaize County, Hydrologic Unit 04100004, at bridge on State Highway 29 in St. Marys, 0.8 mi (1.3 km) downstream from Kopp Creek.
DRAINAGE AREA.--147 mi² (381 km²).
PERIOD OF RECORD.--Discharge, water years 1978, 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 03...	1615	5.9	920	7.8	23.0	310	74	30	66	6.9	240	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 03...	140	78	.6	6.1	.28	.32	.58	.90	.710	.41	60	170

04181045 BLACK CREEK NEAR ROCKFORD, OH

LOCATION.--Lat 40°43'36", long 84°44'16", Mercer County, Hydrologic Unit 04100004, at bridge on State Route 33, 0.9 mi (1.4 km) upstream from mouth 5.4 mi (8.7 km) northwest of Rockford.
DRAINAGE AREA.--53.9 mi² (139.6 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 03...	1430	.07	860	8.1	23.5	420	110	36	30	3.2	220	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 03...	200	41	.4	3.7	.06	.12	.60	.72	.200	.00	40	20

04185200 BEAVER CREEK NEAR STRYKER, OH

LOCATION.--Lat 41°27'23", long 84°26'09", Williams County, Hydrologic Unit 04100006, at bridge on township road, 0.3 mi (0.5 km) upstream from mouth, 3.1 mi (5.0 km) southwest of Stryker.
DRAINAGE AREA.--44.8 mi² (116.0 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 23...	1630	9.2	680	8.0	18.5	250	66	21	30	17	330	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 23...	52	36	.5	11	1.6	.23	.60	.83	.690	.52	880	90

04185810 LICK CREEK NEAR BRUNERSBURG, OH

LOCATION.--Lat 41°22'08", long 84°26'17", Defiance County, Hydrologic Unit 04100006, at bridge on Trinity Road, 1.2 mi (1.9 km) upstream from mouth, 5.0 mi (8.0 km) northwest of Brunersburg.
DRAINAGE AREA.--105 mi² (272 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 24...	0945	16	680	7.6	15.5	210	58	17	23	25	200	50

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	63	29	.4	8.7	.10	.39	1.3	1.7	.230	.12	650	140

04185478 MUD CREEK NEAR BRUNERSBURG, OH

LOCATION.--Lat 41°20'38", long 84°26'51", Defiance County, Hydrologic Unit 04100006, at bridge on State Route 15, 2.4 mi (3.9 km) upstream from mouth, 4.0 mi (6.4 km) northwest of Brunersburg.
DRAINAGE AREA.--58.0 mi² (150.2 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 24...	0900	8.5	680	8.0	15.0	190	53	14	45	6.2	154	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	88	58	.5	9.4	2.8	.27	.70	.97	.610	.37	50	60

04185795 AUGLAIZE RIVER NEAR UNIOPOLIS, OH

LOCATION.--Lat 40°37'11", long 84°07'19", in SW 1/4 sec. 12, T.5 S., R.6 E., Auglaize County, Hydrologic Unit 04100007, at bridge on Mud Sock Road, 0.4 mi (0.6 km) upstream from Blackhorse Creek, 2.2 mi (3.5 km) northeast of Uniopolis.
DRAINAGE AREA.--89.3 mi² (231.3 km²).
PERIOD OF RECORD.--Discharge, water years 1979 to current year; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
MAY												
06...	--	23	--	--	--	--	--	--	--	--	--	--
SEP												
04...	1115	5.5	810	8.0	22.0	400	98	38	20	3.7	340	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH-OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY												
06...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
04...	97	35	.6	6.6	.40	.07	.60	.67	.200	.07	60	80

04187030 OTTAWA RIVER AT D.T. & I. RAILWAY BRIDGE, LIMA, OH

LOCATION.--40°44'53", long 84°05'22", in SE 1/4 sec. 30, T.3 S., R.7 E., Allen County, Hydrologic Unit 04100007, at bridge on the Detroit, Toledo, and Ironton Railway just upstream from Sugar Street in Lima, 1.7 mi (2.7 km) downstream from Lost Creek.
DRAINAGE AREA.--124 mi² (321 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
MAY												
07...	--	18	--	--	--	--	--	--	--	--	--	--
SEP												
04...	0945	9.2	980	8.0	21.0	490	120	47	20	4.8	320	210

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH-OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
SEP											
04...	36	.9	7.9	.74	.06	.52	.58	.330	.06	30	10

04191018 MIDDLE CREEK NEAR MELROSE, OH

LOCATION.--Lat 41°02'55", long 84°24'34", Paulding County, Hydrologic Unit 04100007, at bridge on Township Road 60, 1.0 mi (1.6 km) upstream from mouth, 2.9 mi (4.7 km) south of Melrose.
DRAINAGE AREA.--102 mi² (264 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analysis, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
SEP 24...	1230	8.4	546	9.2	19.5	290	85	18	3.0	.7

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	98	31	15	5.0	.4	9.7	.000	10	0

04191042 PRAIRIE CREEK NEAR MELROSE, OH

LOCATION.--Lat 41°03'18", long 84°26'18", Paulding County, Hydrologic Unit 04100007, at bridge on Township Road 165, 0.2 mi (0.3 km) downstream from West Branch, 2.7 mi (4.3 km) southwest of Melrose, 3.6 mi (5.8 km) upstream from mouth.
DRAINAGE AREA.--105 mi² (272 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analysis, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 24...	1200	1.5	781	7.8	16.0	220	52	21	66	7.4	194	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	150	74	1.0	.8	1.4	.03	1.5	1.5	1.500	1.1	40	30

04191600 POWELL CREEK NEAR DEFIANCE, OH

LOCATION.--Lat 41°14'19", long 84°21'55", in SE 1/4 sec. 2, T.3 N., R.4 E., Defiance County, Hydrologic Unit 04100007, at bridge on Watson Road, 2.8 mi (4.5 km) downstream from Wagner Run, 3.1 mi (5.0 km) south of Defiance.
DRAINAGE AREA.--95.6 mi² (247.6 km²).
PERIOD OF RECORD.--Discharge, water years 1979 to current year; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP												
24...	1045	.95	790	7.5	15.0	260	73	18	51	8.2	196	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP												
24...	85	81	.4	2.8	2.8	.55	.85	1.4	1.100	1.0	20	40

04192650 NORTH TURKEYFOOT CREEK NEAR LIBERTY CENTER, OH

LOCATION.--Lat 41°24'50", long 84°00'34", in sec. 12, T.5 N., R.7 E., Henry County, Hydrologic Unit 04100009, at bridge on State Route 109, 2.0 mi (3.2 km) south of Liberty Center, 2.2 mi (3.5 km) upstream from mouth.
DRAINAGE AREA.--74.2 mi² (192.2 km²).
PERIOD OF RECORD.--Discharge, water years 1979 to current year; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
MAY												
06...	--	17	--	--	--	--	--	--	--	--	--	--
SEP												
24...	1615	3.5	880	8.3	20.0	320	73	34	29	4.7	242	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY												
06...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
24...	110	48	.9	2.6	.37	.12	.26	.38	.100	.07	40	10

04194114 CEDAR CREEK AT CURTICE, OH

LOCATION.--Lat 41°37'27", long 83°21'04", Lucas County, Hydrologic Unit 04100010, at bridge on Brown Road, 1.0 mi (1.6 km) northeast of Curtice, 6.9 mi (11.1 km) upstream from mouth.
DRAINAGE AREA.--48.5 mi^2 (125.6 km^2).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
SEP 03...	1500	6.5	915	7.5	21.0	360	94	31	50	6.3	270	0

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 03...	130	80	.6	9.9	1.2	3.0	.40	3.4	1.000	.07	50	80

04194122 CRANE CREEK NEAR CURTICE, OH

LOCATION.--Lat 41°37'04", long 83°19'48", Ottawa County, Hydrologic Unit, 04100010, at bridge on Curtice Road, 2.0 mi (3.2 km) east of Curtice.
DRAINAGE AREA.--39.2 mi^2 (101.5 km^2).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analaysmes, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
SEP 03...	1545	3.0	1100	7.8	23.5	370	100	29	96	6.1	270	0

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 03...	120	170	1.0	9.3	1.3	.20	.69	.89	.650	.54	20	40

04195870 MUDDY CREEK AT LINDSEY, OH

LOCATION.--Lat 41°24'50", long 80°13'12", Sandusky County, Hydrologic Unit 04100011, at bridge on Kingsway Road, 0.4 mi (0.6 km) south of Lindsey.
DRAINAGE AREA.--68.1 mi² (176.4 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
SEP 24...	1815	4.4	616	8.2	21.0	310	82	25	12	4.3	262	0

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
SEP 24...	72	16	.5	12	1.5	.02	.63	.65	.150	.11	380	30

04195950 PARAMOUR CREEK NEAR LEESVILLE, OH

LOCATION.--Lat 40°48'07", long 82°46'03", Crawford County, Hydrologic Unit 04100011, at bridge on U.S. Highway 30 N, 1.1 mi (1.8 km) northeast of Leesville, 1.2 mi (1.9 km) upstream from mouth.
DRAINAGE AREA.--27.2 mi² (70.4 km²).
PERIOD OF RECORD.--Discharge, water years 1979 to current year; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
MAY 06...	--	3.8	--	--	--	--	--	--	--	--	--	--
SEP 24...	1430	3.1	755	8.1	17.0	270	75	21	42	6.2	290	0

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
MAY 06...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 24...	100	43	.4	12	1.8	.74	.00	.74	1.400	1.4	80	120

04195970 SANDUSKY RIVER NEAR NORTH ROBINSON, OH

LOCATION.--Lat 40°50'10", long 82°49'39", in T.2 S., R.21 W., Crawford County, Hydrologic Unit 04100011, at bridge on Cox Road, 0.3 mi (0.5 km) upstream from Loss Creek, 3.3 mi (5.3 km) northeast of North Robinson.
DRAINAGE AREA.--39.7 mi² (102.8 km²).
PERIOD OF RECORD.--Discharge, water years 1978, 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
MAY 06...	--	7.4	--	--	--	--	--	--	--	--	--	--
SEP 02...	1700	8.1	690	8.2	20.5	290	75	24	32	4.9	200	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY 06...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	80	41	.4	7.2	.70	.07	.39	.46	.240	.21	30	30

04196415 LITTLE SANDUSKY RIVER AT LITTLE SANDUSKY, OH

LOCATION.--40°44'18", long 83°12'50", Wyandot County, Hydrologic Unit 04100011, at bridge on State Route 294 at Little Sandusky, 0.7 mi (1.1 km) downstream from Honey Run.
DRAINAGE AREA.--37.8 mi² (97.9 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 03...	0830	3.2	730	7.5	19.0	400	110	30	14	3.4	300	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 03...	120	24	.5	13	1.4	.04	.73	.77	.320	.09	30	50

04196540 SANDUSKY RIVER NEAR MC CUTCHENVILLE, OH

LOCATION.--Lat 40°56'56", long 83°15'24", in T.1 S., R.14 E., Wyandot County, Hydrologic Unit 04100011, at bridge on State Route 103, 1.2 mi (1.9 km) upstream from Tymochtee Creek, 3.0 mi (4.8 km) south of McCutchenville.
DRAINAGE AREA.--352 mi² (912 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
MAY												
08...	--	67	--	--	--	--	--	--	--	--	--	--
SEP												
03...	1120	43	670	7.9	21.5	350	98	25	15	4.0	240	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
03...	120	22	.4	7.0	.52	.08	.41	.49	.390	.10	40	30

04196580 LITTLE TYMOCHTEE CREEK NEAR MARSEILLES, OH

LOCATION.--Lat 40°41'13", long 83°24'44", in NW 1/4 sec. 19, T.4 S., R.13 E., Marion County, Hydrologic Unit 04100011, at bridge on County Road 22, 1.3 mi (2.1 km) upstream from mouth, 1.4 mi (2.2 km) southwest of Marseilles.
DRAINAGE AREA.--43.7 mi² (113.2 km²).
PERIOD OF RECORD.--Discharge, water years 1978, 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
MAY												
06...	--	5.5	--	--	--	--	--	--	--	--	--	--
SEP												
03...	1000	1.7	625	7.8	18.5	330	88	27	13	3.1	290	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
MAY												
06...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
03...	70	22	.4	5.4	.02	.03	.59	.62	.240	.13	30	80

04196970 SYCAMORE CREEK AT MEXICO, OH

LOCATION.--Lat 40°58'59", long 83°11'43", Wyandot County, Hydrologic Unit 04100011, at bridge on County Road 37, 0.4 mi (0.6 km) southwest of Mexico, 0.4 mi (0.6 km) upstream from mouth.
DRAINAGE AREA.--64.0 mi^2 (165.8 km^2).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP 03...	1220	9.0	510	7.9	20.0	260	71	19	9.2	5.5	200	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHO-PHOSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 03...	75	17	.4	11	1.3	.04	.42	.46	.320	.12	90	30

04198007 MUSKELLUNGE CREEK NEAR FREMONT, OH

LOCATION.--Lat 41°22'21", long 83°08'46", Sandusky County, Hydrologic Unit 04100011, at bridge on Christy Road, 1.8 mi (2.9 km) northwest of Fremont, 1.8 mi (2.9 km) upstream from mouth.
DRAINAGE AREA.--41.8 mi^2 (108.3 km^2).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
SEP 24...	1900	1.6	850 *	8.1	17.5	340	69	41	18	.6

DATE	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	PHOS-PHORUS, TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP 24...	292	0	200	22	1.4	12	.010	140	10

04198014 PICKEREL CREEK NEAR VICKERY, OH

LOCATION.--Lat 41°23'13", long 82°57'31", Sandusky County, Hydrologic Unit 04100011, at bridge on Township Road 267, 1.2 mi (1.9 km) northwest of Vickery, 3.4 mi (5.5 km) upstream from mouth.
DRAINAGE AREA.--44.3 mi² (114.7 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
SEP												
03...	1000	2.9	2200	7.7	17.5	1400	470	47	43	4.8	320	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
SEP												
03...	1100	73	1.1	13	.07	.14	.23	.37	.200	.08	90	60

04199550 BEAVER CREEK AT AMHERST, OH

LOCATION.--Lat 41°25'35", long 82°13'58", Lorain County, Hydrologic Unit 04110001, at bridge on Longbrook Road, 0.2 mi (0.3 km) west of northern city limits of Amherst, 0.3 mi (0.5 km) downstream from unnamed creek "A", 1.8 mi (2.9 km) upstream from mouth.
DRAINAGE AREA.--43.4 mi² (112.4 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)
JUN												
27...	--	5.3	--	--	--	--	--	--	--	--	--	--
SEP												
04...	1300	2.0	770	7.8	21.5	270	82	16	67	10	200	0

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)
JUN												
27...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
04...	85	78	.6	11	.01	.03	.56	.59	.370	.12	90	60

04201490 EAST BRANCH ROCKY RIVER NEAR BEREA, OH

LOCATION.--Lat 41°24'21", long 81°53'10", Cuyahoga County, Hydrologic Unit 04110001, at bridge on park road in Rocky River Reservation, 0.1 mi (0.2 km) upstream from mouth 3.0 mi (4.8 km) northeast of Berea.
DRAINAGE AREA.--76.9 mi² (199.2 km²).
PERIOD OF RECORD.--Discharge, water year 1980; chemical analyses, water year 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)
JUN 27...	--	10	--	--	--	--	--	--	--	--	--	--
SEP 25...	1140	30	1050	7.6	16.0	370	77	42	72	11	140	0

DATE	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)
JUN 27...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 25...	270	95	.9	.3	.35	.11	.73	.84	.120	.06	230	20

DISCHARGE MEASUREMENTS MADE AT LOW-FLOW PARTIAL-RECORD STATIONS DURING WATER YEARS 1978-79, NOT PREVIOUSLY PUBLISHED

Station No.	Station name	Location	Drainage Area (mi²)	Period of Record	Measurements Date	Measurements Discharge (ft³/s)
		Streams tributary to Lake Erie				
04185795	Auglaize River near Uniopolis, OH	Lat 40°37'11", long 84°07'18", in SE 1/4 sec. 12, T.5 S., R.6 E., Auglaize County, Hydrologic Unit 04100007, at bridge on Mud Pike Road, 0.4 mi (0.6 km) upstream from Blackhoof Creek, 2.2 mi (3.5 km) northwest of Uniopolis.	89.3	1979-80	10-11-78	0.85
04191600	Powell Creek near Defiance, OH	Lat 41°14'19", long 84°21'53", in NE 1/4 sec. 2, T.3 N., R.4 E., Defiance County, Hydrologic Unit 04100007, at bridge on Watson Road, 2.8 mi (4.5 km) downstream from Wagner Run, 3.1 mi (5.0 km) south of Defiance.	95.6	1979-80	10-11-78	0
04192650	North Turkeyfoot Creek near Liberty Center, OH	Lat 41°26'50", long 84°00'14", in sec. 12, T.5 N., R.7 E., Henry County, Hydrologic Unit 04100009, at bridge on State Route 109, 2.0 mi (3.2 km) south of Liberty Center, 2.2 mi (3.5 km) upstream from mouth.	74.2	1979-80	10-12-78	1.1
04195950	Paramour Creek near Leesville, OH	Lat 40°48'27", long 82°46'03", Crawford County, Hydrologic Unit 04100011, at bridge on U.S. Highway 30 N., 1.1 mi (1.8 km) northeast of Leesville, 1.2 mi (1.9 km) upstream from mouth.	27.2	1979-80	5-26-79	1.9
04195970	Sandusky River near North Robinson, OH	Lat 40°50'10", long 82°48'10", in T.2 S., R.21 W., Crawford County, Hydrologic Unit 04100011, at bridge on Cox Road, 0.3 mi (0.5 km) upstream from Loss Creek, 3.3 mi (5.3 km) northeast of North Robinson.	39.7	1978, 1980	8-30-78	1.3
04196500	Little Tymochtee Creek near Marseilles, OH	Lat 40°41'12", long 83°26'44", in NE 1/4 sec. 16, T.4 S., R.13 E., Marion County, Hydrologic Unit 04100011, at bridge on County Road 22, 1.3 mi (2.1 km) upstream from mouth, 1.4 mi (2.3 km) southeast of Marseilles.	43.7	1978, 1980	8-31-78	0

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1980

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	 Gage height (feet)	 Discharge (ft^3/s)
		Streams tributary to Lake Erie					
04176870 (C)	Ketcham Ditch at Rowland Road at Toledo, OH	Lat 41°42'19", long 83°35'45", Lucas County, Hydrologic Unit 04100001, at culvert on Rowland Road, 0.3 mi (0.48 km) north of Laskey Road at Toledo.	0.86	1980	6-20-80	---	e62
04176880 (U)	Silver Creek on Jackman Road at Toledo, OH	Lat 41°42'58", long 83°35'08", Lucas County, Hydrologic Unit 04100001, at culvert on Jackman Road, 0.3 mi (0.48 km) south of Alexis Road, at Toledo.	3.96	1980	6-20-80	---	e175
04176890 (C)	Tifft Ditch on Foxglove Road at Toledo, OH	Lat 41°41'55", long 83°37'53", Lucas County, Hydrologic Unit 04100001, at culvert on Foxglove Road, 150 ft (46 m) south of Quintin Avenue at Toledo.	0.80	1980	6-20-80	---	e72
04176900	Hill Ditch near Richards, OH	Lat 41°39'54", long 83°42'05", Lucas County, Hydrologic Unit 04100001, at culvert on U.S. Highway 20, 1.4 mi (2.3 km) east of Richards, 0.8 mi (1.3 km) north of intersection of U.S. Highway 20 and State Highway 246.	*3.52	1967-80	5-19-80	13.01	220
04183750	Middle Fork Gordon Creek tributary at Hicksville, OH	Lat 41°18'54", long 84°46'20", Defiance County, Hydrologic Unit 04100005, at culvert on Hicksville-Edgerton Road, 0.2 mi (0.3 km) south of Middle Fork Gordon Creek, 0.9 mi (1.4 km) north of Hicksville.	0.34	1970-80	6-20-80	97.07	42
04184750	Spring Creek at Fayette, OH	Lat 41°40'32", long 84°19'47", Fulton County, Hydrologic Unit 04100006, at culvert on Gorham Street, 800 ft (240 m) north of U.S. Highway 20 in Fayette.	2.50	1970-80	3-18-80	96.45	220
04184760	Bean Creek tributary near Fayette, OH	Lat 41°39'08", long 84°17'38", Fulton County, Hydrologic Unit 04100006, at culvert on Fulton County Highway R, 1.5 mi (2.4 km) south of U.S. Highway 20, and 2.3 mi (3.7 km) southeast of Fayette.	0.56	1970-80	7-20-80	102.12	63
04185150	Beaver Creek tributary near Montpelier, OH	Lat 41°36'19", long 84°31'03", Williams County, Hydrologic Unit 04100006 on Williams County Road K, 2.0 mi (3.2 km) east of State Highway 15, and 4.7 mi (7.6 km) east of Montpelier.	0.40	1970-80	6-09-80	99.61	161
04185965	Auglaize River tributary near Spencerville, OH	Lat 40°42'27", long 84°19'04", Allen County, Hydrologic Unit 04100007, at culvert on State Highway 117, 1.6 mi (2.6 km) east of Spencerville.	0.51	1970-80	3-05-80	98.77	107
04186000	King Run near Harrod, OH	Lat 40°43'57", long 83°53'47", Allen County, Hydrologic Unit 04100007, at culvert on State Route 309, 0.9 mi (1.4 km) west of Allen-Hardin County line, 2.2 mi (3.5 km) northeast of Harrod.	0.53	1966-80	7-20-80	20.25	78

PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Annual maximum discharge at crest-stage partial-record stations during water year 1980

Station No.	Station name	Location	Drainage area (mi²)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (ft³/s)
		Streams tributary to Lake Erie					
04187700 [illegible]	Pike Run at Lima, OH	Lat 40°46'00", long 84°06'17", Allen County, Hydrologic Unit 04100007, at culvert on Metcalf Road between North Avenue and Brower Road at Lima.	1.10	1980	6-22-80	13.07	131
04187965	Rattlesnake Creek near Cairo, OH	Lat 40°49'30", long 84°04'16", Allen County, Hydrologic Unit 04100007, at culvert on Stewart Road, 1.2 mi southeast of Cairo.	1.45	1970-80	12-14-77 6-14-79 6-02-80	--- --- 23.61	e68 e160 160
04188350	Little Auglaize River tributary at Ottoville, OH	Lat 40°55'01", long 84°20'47", Putnam County, Hydrologic Unit 04100007, at culvert on State Highway 66, 1.0 mi (1.6 km) south of Ottoville.	1.06	1970-80	6-03-80	90.05	e60
04191480	Beetree Run near Junction, OH	Lat 41°13'24", long 84°28'33, Defiance County, Hydrologic Unit 04100007, at culvert on private drive from Bowman Road 12, near Sponseller Road 15B, 3.2 mi (5.1 km) southeast of Junction.	1.66	1970-80	12-20-79	100.11	70
04192900	Dalts Run at Waterville, OH	Lat 41°29'50", long 83°42'35", Wood County, Hydrologic Unit 04100009, at culvert on State Highways 64 and 65, 0.1 mi (0.2 km) upstream from mouth, 0.5 mi (0.8 km) southeast of Waterville.	1.06	1966-80	12-20-79	10.79	65
04193900 [illegible]	Grassy Creek at Perrysburg, OH	Lat 41°33'20", long 83°38'45", Wood County, Hydrologic Unit 04100009, at culvert on East Boundary Street, 1/2 block northeast of Sandusky Street at Perrysburg.	1.03	1980	6-21-80	---	e110
04198100	Norwalk Creek near Norwalk, OH	Lat 41°13'58", long 82°32'28", Huron County, Hydrologic Unit 04100012, at bridge on county road, 300 ft (91 m) south of junction of State Highways 601 and 18, 4.0 mi (6.4 km) southeast of Norwalk, 6.0 mi (9.7 km) upstream from mouth.	4.02	1967-80	6-21-80	13.06	230
04199800	Hoff Run near Litchfield, OH	Lat 41°12'33", long 82°01'26", Lorain County, Hydrologic Unit 04110001, at culvert on State Highway 83, 0.7 mi (1.1 km) north of county line, 2.9 mi (4.7 km) north of Litchfield.	0.76	1966-80	12-20-79	10.76	55
04200800 [illegible]	Glen Park Creek at Bay Village, OH	Lat 41°28'20", long 81°54'44", Cuyahoga County, Hydrologic Unit 04110001, at culvert on Short Street, 350 ft (107 m) north of Wolf Road, 170 ft (52 m) west of Glen Park Road, at Bay Village.	1.00	1980	6-21-80	13.52	127
04207110 [illegible]	Tinkers Creek tributary at Twinsburg, OH	Lat 41°19'30", long 81°28'47", Summit County, Hydrologic Unit 04110002, at culvert on Chamberlin Road about 1.5 mi (2.4 km) north of State Route 82 at Twinsburg.	0.07	1980	6-15-80	11.15	32
04208580 [illegible]	North Fork Doan Brook at Shaker Heights, OH	Lat 41°28'57", long 81°33'34", Cuyahoga County, Hydrologic Unit 04110003, at culvert on Courtland Boulevard between Fairmount Boulevard and South Woodland Road at Shaker Heights.	1.10	1980	6-13-80	17.06	e57

CREST-STAGE PARTIAL-RECORD STATIONS--Continued

Annual maximum discharge at crest-stage partial-record stations during water year [illegible]

Station No.	Station name	Location	Drainage area (mi²)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft³/s)
		Streams tributary to Lake Erie					
[illegible] (c)	Dugway Brook at Cleveland Heights, OH	Lat [illegible], long [illegible], Cuyahoga County, Hydrologic Unit [illegible], at culvert on Euclid Heights Boulevard, between Superior Road and Lee Road at Cleveland Heights.	2.20	[illegible]	[illegible]	---	[illegible]
[illegible] (c)	Euclid Creek tributary at Lyndhurst, OH	Lat [illegible], long [illegible], Cuyahoga County, Hydrologic Unit [illegible], at culvert on Ridgebury Boulevard between Richmond Road and [illegible] Road at Lyndhurst.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible] (c)	[illegible] Run at Richmond Heights, OH	Lat [illegible], long [illegible], Cuyahoga County, Hydrologic Unit [illegible], at culvert behind St. Gregory of Narek Armenian Church, 500 Richmond Road, Richmond Heights.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible] Run tributary at Ashtabula, OH	Lat [illegible], long [illegible], Ashtabula County, Hydrologic Unit [illegible], at culvert on Seven Hills Road, [illegible] mi ([illegible] km) upstream from mouth, [illegible] mi ([illegible] km) south of center of Ashtabula.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* Revised
e Estimated
c Operated as an urban hydrology site where additional data may be available.

SEDIMENT PARTIAL-RECORD STATIONS

The following table contains sediment measurements made for the Black River Sediment study. These figures represent instantaneous streamflow and sediment concentration. The computed sediment discharges assume constant streamflow and sediment concentration for the day.

04199750 East Branch Black River near Lagrange, OH

LOCATION.--Lat 41°11'22", long 82°05'22", Lorain County, Hydrologic Unit 04110001, at bridge on Foster Road, 0.25 mi (0.5 km) south of intersection of Foster Road and Indian Hollow Road, and 1.5 mi (2.4 km) north of intersection of Foster Road and State Route 18, and 3.5 mi (5.7 km) southeast of Lagrange.
DRAINAGE AREA.--136 mi² (352 km²).
PERIOD OF RECORD.--June 1980 to September 1980.

Date	Time	Streamflow instantaneous (ft³/s)	Sediment concentration (mg/L)	Sediment discharge (tons/day)
July 11, 1980	1200	73	324	64
July 23, 1980	1500	16	81	3.5
July 30, 1980	1900	43	126	15
Aug. 4, 1980	1315	112	177	54
Aug. 19, 1980	1415	359	158	153
Aug. 20, 1980	1145	109	112	33
Aug. 22, 1980	1405	1,260	230	782

04200050 West Branch Black River near Oberlin, OH

LOCATION.--Lat 41°15'55", long 82°10'50", Lorain County, Hydrologic Unit 04110001, at highway bridge at corner of Kipton Nickle Plate Road and West Road, 2.5 mi (4 km) southeast of Oberlin.
DRAINAGE AREA.-- 81.9 mi² (212 km²).
PERIOD OF RECORD.--Low-flow partial-record, 1960 to 1974. Sediment partial record, June 1980 to September, 1980.

Date	Time	Streamflow instantaneous (ft³/s)	Sediment concentration (mg/L)	Sediment discharge (tons/day)
July 11, 1980	0945	24	143	9.3
July 23, 1980	1400	5.3	71	1.0
July 31, 1980	1147	25	204	14
Aug. 4, 1980	1245	199	278	149
Aug. 19, 1980	1640	185	211	105
Aug. 20, 1980	1330	90	155	38
Aug. 22, 1980	1630	415	287	322

CRAWFORD COUNTY

404838082563100. Local number, CR-1.

LOCATION.--Lat 40°48'38", long 82°56'31", Hydrologic Unit 04100011, Timken Roller Bearing Co., U.S. Highway 30 in Bucyrus.

Owner: Timken Roller Bearing Company

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 54 ft (15.5 m), cased.

DATUM.--Altitude of land-surface datum is 1,039.13 ft (316.727 m). Measuring point: Floor of instrument shelter 3.50 ft (1.067 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of water.

PERIOD OF RECORD.--April 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.64 ft (11.473 m) Dec. 11, 1962; minimum daily low, 17.31 ft (5.276 m) May 21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 22.32 ft (6.803 m) Sept. 13; minimum daily low, 17.93 ft (5.465 m) Apr. 15.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.88	21.04	20.18	19.45	19.89	20.22	18.86	18.42	18.98	19.08	19.59	19.20
2	20.83	21.05	20.41	19.56	19.90	20.11	18.75	18.45	18.88	19.11	19.60	20.36
3	20.93	21.07	20.34	19.65	19.90	20.06	18.75	18.46	18.36	19.12	19.63	20.85
4	20.91	21.17	20.09	19.62	19.93	19.94	18.43	18.48	18.30	19.13	19.69	20.45
5	20.85	21.12	19.93	19.64	19.92	20.13	18.42	18.42	18.26	19.12	19.90	20.03
6	20.76	21.03	19.97	19.66	19.84	20.17	18.43	18.45	18.15	19.22	19.90	19.92
7	20.91	21.09	20.11	19.68	20.03	20.05	18.33	18.60	18.15	19.21	19.86	19.89
8	20.91	20.93	20.39	19.79	20.05	19.82	18.32	18.64	18.29	19.17	19.86	20.88
9	20.93	20.91	20.35	19.89	19.92	19.70	18.21	18.70	18.23	19.22	19.76	21.14
10	20.88	21.04	20.19	19.87	19.84	19.63	18.14	18.79	18.38	19.13	19.74	21.13
11	20.79	21.10	20.12	19.59	19.89	19.74	18.19	18.75	18.51	19.15	19.74	21.77
12	20.85	21.08	20.26	19.82	20.04	19.79	18.19	18.74	18.57	19.18	19.81	22.16
13	21.03	20.97	20.27	19.67	20.07	19.48	18.21	18.84	18.51	19.25	19.80	22.32
14	21.09	21.06	20.37	19.58	20.08	19.84	17.96	18.92	18.43	19.26	19.75	21.93
15	20.96	20.98	20.32	19.63	20.03	19.90	17.93	18.99	18.54	19.21	19.73	21.57
16	20.96	21.05	20.37	19.51	20.02	19.77	18.12	19.04	18.62	19.24	19.74	21.33
17	20.99	20.93	20.41	19.49	20.08	19.62	18.11	18.96	18.64	19.32	19.72	21.22
18	21.01	20.94	20.27	19.59	20.12	19.82	18.00	18.84	18.77	19.38	19.58	21.20
19	20.92	20.99	20.24	19.68	20.06	19.71	17.99	18.86	19.08	19.43	19.49	21.16
20	20.88	21.09	20.35	19.67	20.02	19.47	17.94	18.87	19.19	19.39	19.76	21.00
21	20.90	21.06	20.28	19.55	20.12	19.24	18.03	18.99	19.02	19.41	19.28	20.93
22	20.92	20.94	20.18	19.36	19.94	19.24	17.98	19.02	18.98	19.34	19.06	20.91
23	20.86	22.32	20.09	19.43	19.92	19.15	17.98	18.94	18.97	19.38	19.05	21.06
24	20.93	21.64	20.00	19.43	19.97	18.97	18.02	18.91	19.00	19.42	19.05	20.99
25	21.00	20.98	19.69	19.65	19.98	19.07	18.17	18.83	19.00	19.43	19.04	20.90
26	21.07	20.34	19.68	19.73	20.13	19.08	18.17	18.91	18.99	19.41	19.06	21.03
27	21.02	20.36	19.66	19.69	19.93	19.06	18.14	18.97	19.03	19.41	19.09	20.99
28	20.92	20.27	19.70	19.77	19.98	18.97	18.17	18.96	19.02	19.45	19.15	20.92
29	21.05	20.15	19.62	19.86	20.22	18.92	18.22	18.93	18.98	19.49	19.20	20.90
30	21.09	20.13	19.42	19.88	---	18.87	18.34	18.96	19.05	19.56	19.17	20.81
31	21.03	---	19.49	19.84	---	18.82	---	18.98	---	19.56	19.18	---
MAX	21.09	22.32	20.41	19.89	20.22	20.22	18.86	19.04	19.19	19.56	19.90	22.32

WTR YR 1980 MEAN 19.72 HIGH 17.93 LOW 22.32

GEAUGA COUNTY

412518081221500. Local number, GE-3A.
LOCATION.--Lat 41°25'18", long 81°22'15", Hydrologic Unit 04110003, 1.2 mi (1.9 km) southeast of Chagrin Falls. Owner: City of Chagrin Falls.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth drilled 120 ft (36.6 m), present depth 89 ft (27.1 m), cased.
DATUM.--Altitude of land-surface datum is 1,130 ft (344 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.
PERIOD OF RECORD.--September 1951 to current year.
REMARKS.--Water level affected by pumping wells nearby for Chagrin Falls municipal supply.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.85 ft (16.109 m) Oct. 2, 1965; minimum daily low, 8.70 ft (2.652 m) May 17, 1973.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 27.38 ft (8.345 m) Dec. 2; minimum daily, 20.40 ft (6.218 m) Apr. 9.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.85	26.93	26.86	26.44	---	26.20	21.73	---	22.29	22.26	23.00	22.00
2	26.74	27.08	27.38	26.51	---	25.97	21.53	---	22.22	22.36	22.92	21.98
3	26.82	27.06	27.26	26.69	---	25.87	21.48	---	22.41	22.32	22.96	22.40
4	26.73	27.26	26.86	26.57	---	25.64	20.88	---	22.63	22.34	23.05	22.48
5	26.57	27.25	26.49	26.34	---	25.41	20.96	---	22.58	22.22	23.12	22.69
6	26.48	26.97	26.51	26.60	---	26.01	21.02	---	22.33	22.52	23.30	22.72
7	26.68	27.18	26.61	26.16	---	25.82	20.74	---	22.37	22.48	23.24	22.83
8	26.65	26.89	27.31	26.70	---	25.29	20.66	---	22.43	22.41	23.11	22.90
9	26.70	26.88	27.20	26.73	---	25.58	20.40	---	22.07	22.44	23.14	22.87
10	26.47	27.09	26.95	26.76	---	25.24	20.75	---	22.23	22.39	23.13	23.10
11	26.36	27.25	26.83	26.09	---	25.53	21.15	---	22.42	22.39	23.14	23.06
12	26.33	27.25	27.05	26.02	---	25.78	20.96	---	22.41	22.47	23.28	23.17
13	26.66	27.08	26.93	25.77	---	25.19	21.34	---	22.23	22.66	23.29	23.19
14	26.68	27.20	27.25	25.37	---	25.39	20.72	---	21.97	22.66	23.21	23.94
15	26.54	26.98	27.15	25.38	---	25.04	20.70	---	21.85	22.57	23.31	24.28
16	26.72	27.22	26.82	25.09	---	24.66	21.45	---	22.14	22.52	23.47	23.38
17	26.77	27.02	27.29	24.75	---	24.11	21.63	---	22.16	22.65	23.44	22.97
18	26.84	27.06	27.14	24.72	---	24.23	21.47	---	22.00	22.82	23.30	22.95
19	26.69	27.16	26.80	24.75	---	24.13	21.44	---	21.91	22.82	23.37	22.86
20	26.73	27.30	27.23	24.62	25.47	23.62	21.27	21.74	22.14	22.80	23.28	22.56
21	26.78	27.25	27.15	24.31	25.96	23.16	21.39	21.90	22.16	22.88	23.30	22.40
22	26.76	27.09	26.95	23.94	25.58	23.37	---	21.99	22.17	22.76	23.38	22.24
23	26.71	26.92	26.81	23.70	25.82	23.29	---	21.89	22.16	22.88	23.48	22.28
24	26.73	27.25	26.52	23.69	25.88	22.84	20.98	21.79	22.14	22.93	23.47	22.20
25	26.85	27.11	26.31	23.86	25.73	22.79	21.31	21.88	22.15	22.95	23.41	22.00
26	27.02	26.72	26.79	23.98	26.08	22.79	21.26	22.19	22.08	22.89	22.93	22.09
27	26.97	27.11	26.86	23.87	25.47	22.69	---	22.26	22.17	22.90	22.68	22.01
28	26.77	26.89	26.98	23.79	25.62	22.41	---	22.24	22.00	22.83	22.55	21.83
29	27.00	26.83	26.79	---	26.05	21.94	---	22.20	21.89	22.92	22.46	21.75
30	27.16	26.94	26.49	---	---	21.87	---	22.19	22.21	23.05	22.26	21.52
31	27.08	---	26.52	---	---	21.60	---	22.26	---	23.01	22.10	---
MAX	27.16	27.30	27.38	26.76	26.08	26.20	21.73	22.26	22.63	23.05	23.48	24.28

WTR YR 1980 MEAN 24.23 HIGH 20.40 LOW 27.38

HANCOCK COUNTY

405332083421700. Local number, HA-15.

LOCATION.--Lat 40°53'32", long 83°42'17", Hydrologic Unit 04100008, 1.3 mi (2.1 km) southeast of Jenera.
Owner: Edgar Wilson.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth drilled 280 ft (85.3 m), present depth 278 ft (84.7 m), cased to 7 ft (2.1 m).

DATUM.--Altitude of land-surface datum is 850 ft (259 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--October 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 3.47 ft (1.058 m) Jan. 12, 1977; minimum daily low, 0.82 ft (0.250 m) above land-surface datum Mar. 15, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 1.57 ft (0.479 m) Aug. 8; minimum daily low, 0.19 ft (0.058 m) Mar. 22.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.09	1.33	.79	.63	.93	1.00	.36	.80	.96	1.29	1.42	1.16
2	1.09	1.33	.87	.68	.94	.97	.40	.82	.67	1.32	1.42	1.21
3	1.13	1.37	.88	.71	.95	.95	.41	.83	.20	1.33	1.45	1.24
4	1.10	1.39	.80	.71	.97	.91	.27	.84	.36	1.35	1.50	1.24
5	1.08	1.38	.76	.73	.97	.86	.35	.82	.44	1.33	1.52	1.21
6	1.09	1.38	.71	.74	.97	.81	.39	.85	.55	1.39	1.54	1.23
7	1.16	1.39	.76	.77	1.04	.77	.44	.92	.57	1.40	1.54	1.25
8	1.17	1.32	.89	.82	1.05	.37	.44	.94	.67	1.38	1.57	1.27
9	1.18	1.31	.89	.86	1.01	.43	.35	.96	.67	1.32	1.55	1.30
10	1.18	1.27	.84	.85	.98	.52	.42	.95	.77	1.30	1.52	1.32
11	1.15	1.29	.81	.74	1.02	.67	.45	.97	.83	1.33	1.45	1.33
12	1.18	1.29	.88	.65	1.08	.72	.42	.96	.86	1.33	1.42	1.34
13	1.27	1.28	.89	.63	1.08	.70	.43	.95	.86	1.21	1.43	1.35
14	1.29	1.30	.92	.68	1.10	.79	.34	1.01	.84	1.24	1.33	1.37
15	1.26	1.26	.92	.68	1.08	.80	.23	1.04	.85	1.25	1.28	1.39
16	1.26	1.30	.95	.65	1.09	.73	.37	1.06	.90	1.28	1.14	1.38
17	1.28	1.26	.97	.62	1.10	.65	.42	1.03	.91	1.34	1.14	1.41
18	1.28	1.28	.95	.67	1.11	.60	.45	.67	.92	1.37	.96	1.44
19	1.25	1.28	.92	.68	1.09	.57	.49	.70	.96	1.40	.99	1.47
20	1.24	1.29	.97	.68	1.07	.54	.52	.73	1.00	1.42	1.01	1.45
21	1.26	1.28	.97	.66	1.06	.32	.56	.78	1.02	1.44	.76	1.45
22	1.26	1.25	.91	.61	.83	.19	.56	.80	1.06	1.42	.85	1.45
23	1.26	1.18	.53	.67	.81	.30	.60	.79	1.08	1.40	.92	1.38
24	1.29	.90	.45	.67	.84	.32	.64	.78	1.09	1.43	.97	1.38
25	1.31	.84	.32	.75	.87	.36	.70	.83	1.10	1.45	1.01	1.38
26	1.33	.69	.43	.80	.91	.43	.70	.88	1.12	1.46	1.05	1.33
27	1.33	.74	.54	.81	.88	.48	.70	.91	1.16	1.46	1.10	1.34
28	1.30	.67	.59	.84	.91	.46	.69	.92	1.18	1.46	1.14	1.34
29	1.35	.72	.58	.90	1.01	.34	.72	.92	1.20	1.37	1.16	1.35
30	1.37	.75	.58	.89	---	.32	.77	.93	1.27	1.40	1.17	1.34
31	1.34	---	.60	.91	---	.30	---	.96	---	1.39	1.18	---
MAX	1.37	1.39	.97	.91	1.11	1.00	.77	1.06	1.27	1.46	1.57	1.47

WTR YR 1980 MEAN .97 HIGH .19 LOW 1.57

HARDIN COUNTY

404648083412600. Local number, HN-2A.

LOCATION.--Lat 40°46'48", long 83°41'26", Hydrologic Unit 04100007, at southeast edge of Dola.
Owner: Ohio Power Company

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 51 ft (15.5 m) cased.

DATUM.--Altitude of land-surface datum is 945 ft (288 m), from topographic map. Measuring point: Floor of instrument shelter 2.88 ft (0.878 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--December 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 15.86 ft (4.834 m) Jan. 20, 21, 1965; minimum daily low, 5.66 ft (1.725 m) Apr. 11, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 7.17 ft (2.185 m) Nov. 4; minimum daily low, 5.68 ft (1.731 m) Apr. 15.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.43	6.88	6.50	6.12	---	7.00	6.15	6.36	6.46	6.53	6.46	6.38
2	6.29	6.93	6.91	6.20	---	6.83	6.09	6.37	6.40	6.58	6.38	6.45
3	6.45	7.00	6.91	6.40	---	6.67	6.07	6.35	6.32	6.57	6.41	6.62
4	6.49	7.17	6.45	6.40	---	6.41	5.93	6.34	6.40	6.54	6.46	6.58
5	6.48	7.16	6.28	6.29	---	6.65	6.07	6.26	6.33	6.50	6.58	6.59
6	6.35	6.99	6.17	6.37	---	6.75	6.12	6.24	6.08	6.69	6.73	6.56
7	6.60	7.07	6.48	6.36	---	6.55	5.97	6.43	6.06	6.68	6.68	6.56
8	6.62	6.86	6.94	6.53	---	6.27	5.94	6.46	6.27	6.51	6.55	6.56
9	6.66	6.73	6.92	6.58	---	6.31	5.82	6.51	6.25	6.60	6.53	6.54
10	6.67	6.98	6.56	6.65	---	6.13	6.00	6.43	6.22	6.49	6.55	6.69
11	6.52	7.14	6.37	6.51	---	6.42	6.15	6.39	6.49	6.45	6.56	6.63
12	6.55	7.14	6.59	6.70	---	6.50	6.07	6.46	6.49	6.50	6.64	6.58
13	6.92	6.97	6.61	6.71	---	6.23	6.17	6.38	6.49	6.50	6.65	6.58
14	7.01	7.06	6.75	6.32	---	6.47	6.10	6.58	6.36	6.51	6.62	6.53
15	6.90	6.90	6.67	6.75	---	6.61	5.68	6.70	6.17	6.46	6.56	6.67
16	6.82	7.04	6.78	6.72	---	6.52	6.30	6.78	6.35	6.39	6.72	6.67
17	6.86	6.89	6.82	6.23	---	6.25	6.32	6.72	6.45	6.41	6.71	6.64
18	6.90	6.87	6.63	6.33	---	6.49	6.32	6.39	6.45	6.53	6.54	6.89
19	6.77	6.92	6.55	6.44	---	6.49	6.15	6.41	6.32	6.55	6.55	6.97
20	6.63	7.08	6.67	6.44	---	6.27	6.09	6.37	6.46	6.60	6.51	6.97
21	6.66	7.07	6.59	6.42	---	6.03	6.06	6.40	6.50	6.52	6.40	6.80
22	6.65	6.85	6.38	6.21	---	6.23	6.07	6.45	6.46	6.50	6.46	6.72
23	6.60	6.82	6.31	5.98	---	6.23	5.97	6.37	6.42	6.49	6.55	6.80
24	6.75	6.95	6.04	6.12	---	6.05	5.91	6.23	6.42	6.58	6.52	6.92
25	6.93	6.85	6.36	6.06	---	6.11	6.11	6.36	6.42	6.56	6.44	6.90
26	7.00	6.66	6.43	6.55	---	6.21	6.16	6.49	6.42	6.54	6.42	6.95
27	6.94	6.69	6.52	6.55	---	6.18	6.14	6.56	6.43	6.47	6.40	6.90
28	6.65	6.52	6.58	6.48	---	6.12	6.06	6.49	6.43	6.42	6.44	7.14
29	6.85	6.48	6.51	6.58	7.01	5.97	6.11	6.42	6.40	6.44	6.47	7.13
30	6.99	6.46	6.22	6.65	---	5.97	6.28	6.38	6.51	6.49	6.41	6.90
31	6.88	---	6.12	6.51	---	5.99	---	6.45	---	6.45	6.38	---
MAX	7.01	7.17	6.94	6.75	7.01	7.00	6.32	6.78	6.51	6.69	6.73	7.14

WTR YR 1980 MEAN 6.51 HIGH 5.68 LOW 7.17

HENRY COUNTY

412123083574000. Local number, HY-2.
LOCATION.--Lat 41°21'23", long 83°57'40", Hydrologic Unit 04100009, 1.4 mi (2.3 km) southwest of McClure.
Owner: State of Ohio.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 300 ft (91.4 m), cased to 43 ft (13.1 m).
DATUM.--Altitude of land-surface datum is 680 ft (207 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.
PERIOD OF RECORD.--June 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 22.60 ft (6.888 m) Feb. 7, 1975; minimum daily low, 14.55 ft (4.435 m) Mar. 22, 1978.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 21.21 ft (6.465 m) July 2; minimum daily low, 17.86 ft (5.444 m) Dec. 6.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.77	19.02	18.23	18.04	19.19	19.12	19.33	19.23	19.95	21.02	19.90	19.45
2	20.44	18.92	18.39	18.35	19.30	19.25	19.54	19.31	19.61	21.21	19.87	19.41
3	20.31	18.84	18.34	18.79	19.24	19.14	19.54	19.38	19.38	21.20	19.85	19.21
4	20.20	18.82	18.12	18.80	19.24	18.86	19.37	19.60	19.60	21.20	20.02	18.96
5	20.11	18.77	17.95	18.86	19.24	18.63	19.27	19.81	19.72	21.00	19.96	18.77
6	19.96	19.08	17.86	18.88	19.14	18.65	19.03	20.02	20.05	20.45	20.05	18.72
7	20.01	19.06	17.95	18.84	19.27	18.45	18.95	20.18	20.18	20.08	20.10	18.59
8	20.01	18.74	18.29	19.02	19.28	18.55	19.05	20.29	20.47	19.64	20.32	18.82
9	19.59	18.58	18.28	19.08	19.27	18.67	19.13	20.20	20.34	19.71	20.45	19.02
10	19.46	18.63	18.13	19.05	19.12	18.66	19.21	19.95	20.19	19.87	20.37	19.14
11	19.30	18.76	18.29	18.84	19.10	18.94	19.23	19.78	20.28	19.85	20.35	19.18
12	19.49	18.66	19.08	19.10	19.33	18.96	19.24	19.70	20.38	19.79	20.44	19.38
13	19.82	18.89	19.55	19.01	19.24	18.86	19.24	19.43	20.24	19.87	20.38	19.53
14	19.87	19.08	19.82	19.12	19.13	19.15	19.03	19.19	20.14	19.87	20.07	19.59
15	19.71	18.93	19.72	19.21	18.98	19.36	18.69	19.10	20.05	19.91	19.90	19.62
16	19.45	18.83	19.50	19.11	18.91	19.17	18.74	19.24	20.25	20.10	19.58	19.49
17	19.25	18.62	19.44	19.03	18.96	19.02	19.00	19.29	20.12	20.47	19.36	19.33
18	19.14	18.64	19.38	18.99	19.02	18.89	19.17	19.38	19.85	20.77	19.09	19.25
19	19.13	18.77	19.42	18.82	18.96	18.69	19.08	19.47	19.47	20.88	19.31	18.98
20	19.12	19.24	19.43	18.67	18.74	18.38	18.82	19.63	19.61	21.03	19.36	18.92
21	18.98	19.27	19.37	18.46	18.60	18.50	18.83	19.65	19.76	21.04	19.26	18.82
22	18.90	19.19	19.17	18.28	18.34	18.72	18.98	19.77	19.76	20.99	19.07	18.72
23	19.09	18.90	19.10	18.49	18.30	18.80	19.20	19.80	19.79	20.63	18.97	18.85
24	19.32	18.74	18.98	18.48	18.26	18.73	19.08	19.70	20.04	20.18	19.18	18.95
25	19.48	18.67	18.57	18.80	18.43	18.81	19.13	19.76	20.33	19.85	19.29	19.05
26	19.51	18.29	18.46	18.97	18.36	18.83	19.14	19.84	20.60	19.64	19.40	19.21
27	19.28	18.34	18.52	18.99	18.54	18.89	19.09	19.98	20.50	19.38	19.45	19.25
28	18.98	18.17	18.70	19.06	18.73	18.91	19.08	19.77	20.62	19.58	19.52	19.22
29	18.98	18.11	18.57	19.20	19.08	18.91	19.12	19.63	20.76	19.70	19.66	19.12
30	19.15	18.12	18.25	19.17	---	18.86	19.13	19.81	20.97	19.85	19.55	18.77
31	19.20	---	18.10	19.17	---	19.13	---	20.04	---	19.83	19.51	---
MAX	20.77	19.27	19.82	19.21	19.33	19.36	19.54	20.29	20.97	21.21	20.45	19.62

WTR YR 1980 MEAN 19.31 HIGH 17.86 LOW 21.21

LORAIN COUNTY

411545082072400. Local number, LN-1.

LOCATION.--Lat 41°15'45", long 82°07'24", Hydrologic Unit 04110001, 1.7 mi (2.7 km) north of LaGrange.
Owner: LaGrange Water Department.

AQUIFER.--Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 47 ft (14.3 m), cased.

DATUM.--Altitude of land-surface datum is 795 ft (242 m), from topographic map. Measuring point: Floor of instrument shelter 1.50 ft (0.457 m) above land-surface datum.

PERIOD OF RECORD.--September 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.60 ft (10.851 m) Oct. 25, 1952; minimum daily low, 0.13 ft (0.040 m) Jan. 8, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 3.58 ft (1.091 m) July 25; minimum daily low, 0.46 ft (0.140 m) Apr. 14.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.80	2.05	.93	.60	1.83	1.72	.72	1.56	2.20	2.66	2.95	1.93
2	1.65	2.09	.95	.75	1.89	1.54	.70	1.61	2.08	2.76	2.86	2.11
3	1.84	2.10	.95	.88	1.93	1.43	.69	1.61	2.30	2.79	2.47	2.21
4	1.82	2.27	.93	.88	1.99	1.22	.48	1.63	2.40	2.82	2.28	2.19
5	1.77	2.27	.73	.88	1.99	1.42	.65	1.56	2.40	2.80	1.98	2.24
6	1.59	2.06	.68	.91	1.91	1.54	.72	1.56	2.19	2.99	1.98	2.24
7	1.63	2.17	.78	.93	2.22	1.36	.63	1.74	2.12	3.01	1.88	2.31
8	1.65	1.97	.95	1.26	2.28	1.06	.63	1.83	2.14	2.96	1.74	2.33
9	1.63	1.91	.95	1.45	2.13	1.11	.49	1.91	2.00	2.99	1.77	2.36
10	1.60	1.97	.92	1.44	1.98	.86	.65	1.92	2.13	2.96	1.80	2.48
11	1.50	2.03	.82	1.03	1.99	1.15	.75	1.89	2.31	2.97	1.84	2.45
12	1.49	2.00	1.06	1.44	2.28	1.27	.70	1.99	2.37	3.06	2.03	2.49
13	1.82	1.67	1.03	1.34	2.36	.89	.76	1.88	2.28	3.22	2.08	2.52
14	1.92	1.69	1.13	1.26	2.39	1.31	.46	2.17	2.12	3.25	2.05	2.45
15	1.77	1.56	1.07	1.33	2.33	1.43	.52	2.32	2.11	3.17	2.18	2.51
16	1.63	1.55	1.11	1.19	2.21	1.28	.90	2.41	2.29	3.17	2.35	2.44
17	1.61	1.37	1.21	1.00	2.36	.89	.89	2.31	2.31	3.28	2.37	2.53
18	1.65	1.30	1.09	1.05	2.45	1.11	.77	2.02	2.17	3.41	2.27	2.63
19	1.53	1.35	.95	1.12	2.36	1.05	.75	2.04	2.10	3.44	2.35	2.73
20	1.44	1.48	.95	1.07	2.26	.73	.73	1.96	2.24	3.44	2.31	2.57
21	1.45	1.47	.95	.88	2.41	.60	.81	1.96	2.29	3.45	2.27	2.52
22	1.47	1.29	.95	.64	2.11	.86	.79	2.02	2.28	3.42	2.20	2.50
23	1.40	1.13	.83	.72	2.06	.86	.79	1.93	2.32	3.51	2.14	2.73
24	1.53	1.28	.66	.72	1.90	.62	.79	1.81	2.33	3.57	1.99	2.75
25	1.71	1.18	.60	1.14	1.78	.82	1.11	1.91	2.37	3.58	1.84	2.67
26	1.87	.78	.74	1.37	1.74	.86	1.15	2.07	2.35	3.54	1.79	2.88
27	1.87	.92	.88	1.36	1.34	.88	1.14	2.15	2.43	3.48	1.80	2.94
28	1.71	.76	.92	1.49	1.34	.75	1.15	2.13	2.38	3.44	1.89	2.89
29	1.99	.74	.83	1.68	1.73	.59	1.23	2.10	2.36	3.36	1.91	2.87
30	2.09	.86	.58	1.76	---	.56	1.41	2.09	2.61	3.15	1.90	2.77
31	2.06	---	.58	1.72	---	.58	---	2.18	---	3.07	1.91	---
MAX	2.09	2.27	1.21	1.76	2.45	1.72	1.41	2.41	2.61	3.58	2.95	2.94

WTR YR 1980 MEAN 1.76 HIGH .46 LOW 3.58

LUCAS COUNTY

413704083362200. Local number, LU-1.

LOCATION.--Lat 41°37'04", long 83°36'22", Hydrologic Unit 04100001, at Toledo State Hospital.
Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.3 m), depth drilled 525 ft (160.0 m), present depth 523.0 ft (159.4 m), cased to 93 ft (28.3 m).

DATUM.--Altitude of land-surface datum is 624 ft (190 m), from topographic map. Measuring point: Floor of instrument shelter 2.98 ft (0.908 m) above land-surface datum (Revised from 1978 and 1979).

REMARKS.--Prior to Aug. 23, 1978, measuring point was 3.10 ft (0.945 m) above land-surface datum. Reported in 1979 as 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 117.25 ft (35.738 m) Sept. 18, 1957; minimum daily low, 69.85 ft (21.290 m) May 6, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 74.46 ft (22.695 m) Oct 1; minimum daily low, 69.85 ft (21.290 m) May 6.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74.46	73.14	72.45	71.70	71.73	71.56	70.64	70.14	70.86	71.78	73.06	73.37
2	74.08	73.16	72.91	71.84	71.73	71.38	70.62	70.16	70.72	71.93	72.97	73.57
3	74.24	73.25	72.91	71.98	71.72	71.10	70.60	70.12	71.10	71.93	73.04	73.68
4	74.23	73.38	72.41	71.94	71.71	70.82	70.34	70.11	71.29	71.93	73.11	73.56
5	74.17	73.34	72.11	71.82	71.66	71.04	70.49	69.90	71.31	71.87	73.22	73.56
6	73.92	73.15	71.84	71.85	71.45	71.18	70.55	69.85	71.04	72.09	73.39	73.46
7	74.09	73.18	71.89	71.70	71.74	70.99	70.33	70.17	71.02	72.05	73.32	73.47
8	74.09	72.74	72.68	71.93	71.79	70.78	70.28	70.24	71.24	71.91	73.21	73.38
9	74.04	72.69	72.66	72.10	71.54	70.82	70.05	70.31	71.02	71.99	73.21	73.26
10	73.98	72.92	72.35	72.02	71.27	70.66	70.29	70.19	71.15	71.91	73.26	73.29
11	73.71	73.12	72.09	71.55	71.16	71.02	70.40	70.16	71.32	71.97	73.22	73.11
12	73.62	73.12	72.43	72.03	71.41	71.13	70.41	70.16	71.32	72.11	73.38	72.96
13	74.01	72.92	72.42	71.89	71.46	70.65	70.47	69.99	71.14	72.31	73.39	72.80
14	74.09	73.00	72.54	71.85	71.45	71.07	70.11	70.26	70.89	72.35	73.27	72.57
15	73.89	72.76	72.52	71.87	71.37	71.18	70.19	70.42	70.96	72.26	73.42	72.58
16	73.82	72.92	72.47	71.73	71.13	70.96	70.65	70.52	71.13	72.35	73.57	72.37
17	73.84	72.63	72.58	71.56	71.19	70.64	70.65	70.34	71.15	72.51	73.54	72.29
18	73.87	72.66	72.41	71.72	71.24	71.01	70.51	70.09	70.94	72.66	73.31	72.35
19	73.66	72.66	72.17	71.84	71.06	70.97	70.45	70.15	70.86	72.70	73.31	72.36
20	73.45	72.85	72.39	71.85	70.92	70.65	70.30	70.12	71.05	72.74	73.20	72.02
21	73.39	72.86	72.29	71.61	71.08	70.56	70.38	70.17	71.08	72.83	73.17	71.85
22	73.35	72.54	72.03	71.19	70.90	70.80	70.21	70.22	71.02	72.77	73.44	71.72
23	73.17	72.40	71.86	71.15	70.97	70.80	70.02	70.10	71.11	72.92	73.57	71.90
24	73.27	72.68	71.71	71.09	71.08	70.49	69.98	70.13	71.16	73.01	73.55	71.91
25	73.42	72.67	71.86	71.37	71.16	70.77	70.18	70.42	71.17	73.01	73.48	71.72
26	73.54	72.21	71.96	71.54	71.37	70.85	70.16	70.63	71.23	72.97	73.45	71.92
27	73.45	72.47	72.26	71.51	70.96	70.88	70.08	70.74	71.44	72.91	73.46	71.91
28	73.09	72.30	72.34	71.58	71.04	70.75	69.93	70.69	71.41	72.93	73.54	71.72
29	73.32	72.30	72.20	71.75	71.59	70.55	69.90	70.66	71.50	72.99	73.53	71.64
30	73.40	72.36	71.87	71.76	---	70.49	70.05	70.64	71.74	73.05	73.47	71.37
31	73.21	---	71.78	71.68	---	70.49	---	70.83	---	73.02	73.45	---
MAX	74.46	73.38	72.91	72.10	71.79	71.56	70.65	70.83	71.74	73.05	73.57	73.68

WTR YR 1980 MEAN 71.91 HIGH 69.85 LOW 74.46

MEDINA COUNTY

410142082005900. Local number, MD-1.

LOCATION.--Lat 41°01'42", long 82°00'59", Hydrologic Unit 04110001. Waterworks plant at Lodi.
Owner: Lodi Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 65 ft (19.9 m), cased.

DATUM.--Altitude of land-surface datum is 910 ft (277 m), from topographic map. Measuring point: Floor of instrument shelter 1.90 ft (0.579 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--September 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 31.50 ft (9.601 m) July 16, 1971; minimum daily low, 7.60 ft (2.316 m) July 6, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 24.80 ft (7.559 m) Aug. 12; minimum recorded daily low, 14.56 ft (4.438 m) Apr. 6.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	21.60	---	---	23.79	20.30	---	22.68		---	19.76
2		---	19.20	---	---	22.58	20.09	---	20.98		---	21.43
3		---	---	---	---	22.57	21.00	---	---		---	21.57
4		---	---	---	---	---	20.14	---	---		---	21.55
5		---	---	---	---	---	18.50	---	---		---	22.12
6		---	---	---	---	---	14.56	---	---		22.51	21.11
7		---	---	---	---	---	---	---	---		22.07	20.22
8		---	---	---	---	---	---	---	---		22.93	22.23
9		---	---	---	---	---	---	---	---		22.80	21.80
10		---	---	---	---	---	---	---	---		22.36	21.98
11		---	---	---	---	---	---	---	---		24.08	21.31
12		---	---	---	---	---	---	---	---		24.80	22.56
13		---	---	---	22.79	---	---	23.23	---		23.26	21.68
14		---	---	---	---	---	---	23.89	---		23.42	21.56
15		---	---	---	---	---	---	24.10	---		23.42	22.21
16		---	---	---	---	---	---	23.95	---		22.03	22.97
17		---	---	21.29	---	22.68	---	22.62	---		22.17	22.63
18		---	22.46	21.79	---	23.16	---	21.90	---		22.75	22.93
19		---	22.14	---	---	22.95	---	22.64	---		22.65	22.87
20		23.41	22.01	---	---	22.01	---	22.88	---		22.55	22.51
21		23.71	23.23	---	---	21.95	---	23.10	---		22.69	21.56
22		23.62	---	---	---	21.69	---	23.32	---		22.62	21.92
23		21.75	---	---	---	21.46	---	23.30	---		21.85	21.94
24		22.56	---	---	---	21.17	---	20.79	---		19.83	21.81
25		20.59	---	---	---	21.83	---	22.01	---		21.70	21.82
26		24.19	---	---	---	21.41	---	21.15	---		22.43	21.83
27		21.27	---	---	---	19.96	---	22.91	---		22.07	21.86
28		22.48	---	---	---	19.96	---	23.24	---		22.82	22.18
29		21.98	---	---	24.11	19.96	---	23.69	---		21.95	22.15
30		23.12	---	---	---	19.92	---	24.34	---		20.88	22.15
31		---	---	---	---	20.46	---	22.84	---		19.66	---
MAX		24.19	23.23	21.79	24.11	23.79	21.00	24.34	22.68		24.80	22.97

WTR YR 1980 MEAN 22.07 HIGH 14.56 LOW 24.80

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

OTTAWA COUNTY

413644083201400. Local number, O-1.

LOCATION.--Lat 41°36'44", long 83°20'14", Hydrologic Unit 04100010, Williston Rd at Crane Creek near Williston. Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.3 m), depth 360 ft (109.7 m).

DATUM.--Altitude of land-surface datum is 588 ft (179 m), from topographic map. Measuring point: Floor of instrument shelter 5.00 ft (1.524 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1972 to January 1980 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.52 ft (5.645 m) Mar. 19, 1977; minimum daily low, 11.55 ft (3.520 m) Jan. 20, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum recorded daily low, 17.43 ft (5.313 m) Dec. 2; minimum recorded daily low, 16.31 ft (4.971 m) Oct. 2.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.37	16.93	17.17	16.76								
2	16.31	16.95	17.43	16.86								
3	16.49	17.04	17.38	16.94								
4	16.47	17.13	16.91	16.92								
5	16.45	17.11	16.76	16.88								
6	16.37	16.92	16.88	16.85								
7	16.65	17.02	16.94	16.78								
8	16.68	16.82	17.42	16.95								
9	16.65	16.80	17.37	17.00								
10	16.65	17.03	17.00	16.95								
11	16.49	17.16	16.86	16.58								
12	16.56	17.14	17.16	17.07								
13	16.89	16.97	17.12	16.96								
14	16.94	17.06	17.15	16.88								
15	16.73	16.95	17.12	16.90								
16	16.75	17.11	17.26	16.76								
17	16.82	16.93	17.27	16.67								
18	16.85	17.01	17.09	16.78								
19	16.69	17.02	17.04	16.81								
20	16.64	17.18	17.14	16.80								
21	16.73	17.18	17.07	16.62								
22	16.73	16.92	16.84	16.34								
23	16.71	16.87	16.77	16.42								
24	16.83	17.09	16.75	16.42								
25	16.91	17.09	16.94	16.69								
26	16.96	16.90	17.02	16.79								
27	16.91	17.11	17.12	16.74								
28	16.74	16.97	17.13	16.66								
29	16.96	16.97	17.02	16.80								
30	17.04	17.06	16.74	16.80								
31	16.87	---	16.76	16.62								
MAX	17.04	17.18	17.43	17.07								

WTR YR 1980 MEAN 16.88 HIGH 16.31 LOW 17.43

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

PORTAGE COUNTY

410920081192000. Local number, PO-6.

LOCATION.--Lat 41°09'20", long 81°19'20", Hydrologic Unit 04110002, State Route 59, east of Kent.
Owner: Brown Derby Restaurant.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 72 ft (21.9 m), cased.

DATUM.--Altitude of land-surface datum is 1,040 ft (317 m), from topographic map. Measuring point: Top of platform 4.50 ft (1.372 m) below land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.37 ft (7.733 m) Feb. 22, 1977; minimum daily low, 14.28 ft (4.352 m) May 5, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 18.47 ft (5.629 m) Oct. 1; minimum recorded daily low, 14.28 ft (4.352 m) May 5.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.47	17.98	18.22	17.88	16.60	17.23	16.35	14.36	14.98	15.22	16.33	
2	18.37	17.98	18.27	17.76	16.61	17.22	16.26	14.33	15.00	15.24	16.37	
3	18.33	17.97	18.26	17.70	16.61	17.17	16.20	14.32	15.07	15.28	16.39	
4	18.29	18.01	18.13	17.64	16.60	16.97	16.11	14.31	15.08	15.28	16.41	
5	18.22	18.01	18.07	17.57	16.60	17.01	16.09	14.28	15.10	---	16.46	
6	18.16	18.02	18.07	17.56	16.61	17.04	16.00	14.31	15.10	---	16.48	
7	18.11	18.05	18.12	17.48	16.68	17.01	15.95	14.36	15.10	---	16.49	
8	18.09	18.05	18.18	17.48	16.70	17.02	15.86	14.40	15.13	---	16.49	
9	18.07	18.07	18.18	17.43	16.65	17.02	15.78	14.41	15.09	---	16.50	
10	18.06	18.16	18.12	17.38	16.65	17.01	15.71	14.43	15.14	---	16.50	
11	17.99	18.18	18.08	17.36	16.70	17.07	15.68	14.47	15.17	---	16.51	
12	---	18.19	18.14	17.30	16.78	17.10	15.56	14.50	15.17	---	16.54	
13	---	18.19	18.15	17.24	16.82	16.99	15.54	14.50	15.12	---	16.54	
14	---	18.22	18.19	17.19	16.83	17.05	15.35	14.59	15.05	---	16.55	
15	---	18.22	18.18	17.16	16.82	17.00	15.29	14.64	15.02	---	16.58	
16	---	18.25	18.23	17.10	16.88	17.03	15.30	14.68	15.07	---	16.61	
17	---	18.23	18.23	17.04	16.92	16.95	15.21	---	15.07	---	16.61	
18	---	18.26	18.23	17.01	16.97	17.03	15.10	---	15.01	---	16.61	
19	---	18.29	18.24	17.00	16.98	17.02	15.00	---	14.99	---	16.61	
20	---	18.30	18.28	16.95	17.02	16.94	14.88	---	15.02	---	16.61	
21	---	18.30	18.28	16.87	17.05	16.94	14.82	---	15.02	---	16.63	
22	---	18.28	18.25	16.77	17.08	16.97	14.73	---	15.02	---	16.67	
23	---	18.32	18.27	16.73	17.10	16.95	14.63	---	15.04	---	16.70	
24	---	18.34	18.28	16.72	17.14	16.78	14.59	---	15.07	---	16.71	
25	---	18.30	18.26	16.73	17.18	16.76	14.55	14.80	15.07	---	16.72	
26	---	18.33	18.32	16.73	17.22	16.72	14.53	14.84	15.10	---	16.74	
27	---	18.33	18.31	16.67	17.16	16.67	14.44	14.87	15.15	---	16.74	
28	---	18.28	18.21	---	17.21	16.58	14.41	14.87	15.17	---	16.74	
29	---	18.26	18.10	---	17.23	16.50	14.38	14.90	15.18	---	---	
30	---	18.21	17.95	16.64	---	16.48	14.37	14.94	15.20	---	---	
31	---	---	17.87	16.61	---	16.38	---	14.98	---	---	---	
MAX	18.47	18.34	18.32	17.88	17.23	17.23	16.35	14.98	15.20	15.28	16.74	

WTR YR 1980 MEAN 16.64 HIGH 14.28 LOW 18.47

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

PUTNAM COUNTY

405505084032900. Local number, Pu-1.

LOCATION.--Lat 40°55'05", long 84°03'29", Hydrologic Unit 04100007, Center and Broadway Streets, Columbus Grove. Owner: Columbus Grove Water Department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 110 ft (33.5 m), cased.

DATUM.--Altitude of land-surface datum is 770 ft (235 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resource, Division of Water.

PERIOD OF RECORD.--July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.30 ft (7.407 m) Aug. 28, 1962; minimum daily low, 9.50 ft (2.896 m) Jan. 5, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 14.18 ft (4.322 m) Oct. 15; minimum daily low, 9.87 ft (3.008 m) April 4.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.09	13.06	11.61	11.50	12.14	12.48	11.05	12.33	11.95	12.06	12.16	13.75
2	12.27	12.97	12.06	11.30	12.31	12.11	11.02	11.99	10.94	11.68	13.23	12.72
3	12.27	12.88	10.79	11.61	11.99	12.27	10.53	11.78	11.41	13.78	12.24	12.66
4	11.21	12.97	11.08	10.66	12.25	12.20	9.87	12.87	11.53	12.76	11.98	13.46
5	12.34	13.21	11.88	10.86	12.23	12.18	10.44	12.35	10.80	12.13	13.41	12.86
6	12.34	12.28	10.63	10.73	12.36	12.28	10.18	11.08	11.79	13.14	12.84	12.41
7	12.14	13.10	11.67	12.15	12.23	10.91	10.32	13.25	11.28	13.04	12.75	13.59
8	12.39	12.91	12.06	10.97	12.50	11.14	11.70	12.79	10.71	12.03	13.03	12.99
9	12.59	12.84	10.86	12.03	12.53	11.98	11.65	11.15	12.06	13.13	13.15	11.91
10	12.30	13.12	12.00	12.12	12.38	11.71	12.07	13.04	11.29	12.67	12.05	13.98
11	12.68	13.19	11.84	11.93	12.23	11.61	11.35	12.63	11.28	11.53	13.64	13.14
12	12.79	12.72	11.76	12.04	12.38	11.60	11.20	11.63	12.09	13.28	13.35	12.18
13	11.59	13.03	12.02	12.08	12.90	11.49	12.02	12.98	11.93	11.99	11.69	14.01
14	12.58	13.03	12.07	10.97	12.46	11.55	11.30	13.86	11.59	11.78	13.95	13.51
15	14.18	12.92	11.71	12.08	12.36	11.93	10.19	11.67	11.54	12.04	12.63	12.22
16	12.16	12.98	12.03	10.82	11.43	11.83	12.20	13.45	11.98	12.14	12.47	13.70
17	12.97	13.20	12.01	11.76	11.40	10.38	11.28	12.72	11.02	11.21	13.22	12.94
18	12.99	12.80	11.87	11.72	12.60	10.74	11.18	11.57	13.00	12.08	12.87	12.70
19	12.46	13.17	12.05	11.98	12.56	12.19	12.22	12.53	11.85	13.13	14.08	14.00
20	12.86	13.17	12.20	11.58	12.28	10.45	11.42	12.40	11.56	11.37	13.22	13.31
21	12.52	12.77	11.93	11.07	12.90	11.15	11.19	11.72	12.02	13.17	12.83	12.31
22	12.71	13.27	12.19	11.77	12.24	11.07	12.45	12.70	12.04	12.74	11.65	14.08
23	12.55	13.13	11.01	11.74	11.89	11.23	11.44	11.93	11.28	11.32	13.10	13.30
24	12.56	11.93	11.35	11.55	12.21	10.52	11.23	11.63	12.76	13.18	12.80	12.46
25	12.56	12.64	11.29	11.79	11.82	11.18	12.22	12.30	12.22	12.23	11.92	14.02
26	12.77	12.24	11.46	11.83	12.12	10.10	11.98	11.91	12.04	13.07	13.73	13.43
27	12.97	11.40	11.30	10.90	11.99	11.25	10.70	11.71	13.25	12.74	12.48	12.62
28	12.69	11.72	11.88	11.22	12.05	10.99	12.36	13.28	12.25	12.78	12.59	13.88
29	13.02	11.69	11.64	12.15	11.91	11.28	11.02	12.23	12.21	12.52	13.51	13.43
30	13.12	11.32	11.66	11.89	---	11.22	11.49	11.99	13.29	13.02	13.08	14.11
31	12.98	---	11.62	11.95	---	11.11	---	13.32	---	12.17	12.44	---
MAX	14.18	13.27	12.20	12.15	12.90	12.48	12.45	13.86	13.29	13.78	14.08	14.11

WTR YR 1980 MEAN 12.19 HIGH 9.87 LOW 14.18

RICHLAND COUNTY

405753082360800. Local number, R-3.
LOCATION.--Lat 40°57'53", long 82°36'08", Hydrologic Unit 04100012, Voinard plant in Shiloh.
Owner: Voinard Corp.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 150 ft (45.7 m), cased.
DATUM.--Altitude of land-surface datum is 1,080 ft (329 m), from topographic map. Measuring point: Floor of instrument shelter 3.17 ft (0.966 m) above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--April 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 34.88 ft (10.631 m) Dec. 28, 1965; minimum daily low, 23.68 ft (7.218 m) June 15, 23, 1947.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 32.28 ft (9.839 m) Apr. 29; minimum daily low, 29.47 ft (8.982 m) Sept. 27.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.34	31.92	31.60	30.90	30.99	31.43	30.45	29.83	30.61	31.20	31.69	31.88
2	31.25	31.92	31.99	31.03	31.03	31.16	30.38	29.88	30.58	31.34	31.60	31.98
3	31.57	31.98	31.91	31.17	30.97	31.06	30.33	29.78	30.65	31.33	31.61	32.06
4	31.57	32.11	31.51	31.12	31.14	30.88	30.02	29.77	30.78	31.29	31.65	32.06
5	31.47	32.08	31.25	31.03	31.11	31.07	30.20	29.84	30.71	31.18	31.76	32.04
6	31.48	31.81	31.12	31.02	30.88	31.18	30.20	29.70	30.52	31.31	31.91	31.97
7	31.97	31.98	31.32	30.94	31.10	31.02	30.04	29.88	30.51	31.24	31.86	31.95
8	31.87	31.88	31.63	31.18	31.12	30.85	29.98	29.91	30.64	31.38	31.74	31.94
9	31.87	31.58	31.73	31.30	30.91	30.87	29.79	30.06	30.51	31.43	31.80	31.93
10	31.85	31.71	31.48	31.27	30.71	30.69	29.92	30.14	30.68	31.25	31.76	32.07
11	31.78	31.86	31.30	30.77	30.86	30.96	29.99	29.94	30.91	31.22	31.70	31.99
12	31.69	31.85	31.61	31.30	31.00	31.05	29.94	30.08	30.98	31.22	31.80	31.98
13	32.08	31.73	31.57	31.12	30.99	30.63	29.96	29.98	30.85	31.38	31.82	31.96
14	32.11	31.81	31.65	31.10	30.99	31.04	29.88	30.22	30.73	31.33	31.78	31.90
15	31.99	31.68	31.68	31.12	30.90	31.12	29.88	30.34	30.57	31.35	31.82	31.97
16	31.94	31.74	31.48	30.99	30.77	30.97	30.12	30.36	30.88	31.37	32.00	31.91
17	31.98	31.54	31.62	30.82	30.83	30.92	30.08	30.25	30.88	31.54	31.92	31.85
18	31.95	31.63	31.49	30.90	30.98	31.00	29.99	30.05	30.82	31.67	31.70	32.16
19	31.78	31.76	31.48	31.04	30.79	30.90	29.98	30.14	30.70	31.72	31.73	32.09
20	31.72	31.88	31.59	30.96	30.71	30.66	29.75	30.14	30.91	31.74	31.84	32.09
21	31.71	31.85	31.51	30.76	30.88	30.56	29.76	30.26	30.93	31.77	31.73	31.91
22	31.75	31.61	31.31	30.47	30.74	30.80	29.84	30.27	30.98	31.60	31.87	31.87
23	31.77	31.49	31.28	30.41	30.88	30.76	29.52	30.21	31.00	31.70	31.98	32.11
24	31.78	31.79	31.05	30.40	30.94	30.45	29.84	30.08	31.02	31.72	31.89	32.11
25	31.84	31.76	31.10	30.69	30.87	30.67	29.97	30.29	31.06	31.75	31.88	31.98
26	31.98	31.54	31.30	30.90	31.18	30.70	29.95	30.44	31.05	31.71	31.90	32.25
27	31.88	31.68	31.49	30.79	30.89	30.69	29.63	30.50	31.19	31.66	31.95	32.28
28	31.64	31.59	31.52	30.88	30.92	30.55	29.49	30.61	31.11	31.58	32.01	31.98
29	31.87	31.60	31.44	31.02	31.39	30.38	29.47	30.57	31.00	31.60	31.98	32.12
30	31.98	31.68	31.10	31.04	---	30.25	29.81	30.54	31.21	31.69	31.92	32.07
31	31.88	---	30.98	30.91	---	30.30	---	30.65	---	31.68	31.81	---
MAX	32.11	32.11	31.99	31.30	31.39	31.43	30.45	30.65	31.21	31.77	32.01	32.28

WTR YR 1980 MEAN 31.16 HIGH 29.47 LOW 32.28

SANDUSKY COUNTY

411916083045300. Local number, S-3.

LOCATION.--Lat 41°19'16", long 83°04'53", Hydrologic Unit 04100011, 2.6 mi (4.2 km) southeast of Fremont Post Office.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in (0.30 m), depth 121 ft (36.9 m), cased to 93 ft (28.3 m).

DATUM.--Altitude of land-surface datum is 627 ft (191 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

PERIOD OF RECORD.--December 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.18 ft (7.370 m) Aug. 2, 1975; minimum daily low, 14.02 ft (4.273 m) Mar. 26, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 22.50 ft (6.858 m) July 19; minimum daily low, 14.76 ft (4.499 m) Apr. 14.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.55	16.62				---	15.29	15.30	16.34	18.01	20.00	16.67
2	18.17	16.64				---	15.33	15.29	17.06	19.05	20.46	16.76
3	18.05	16.70				---	15.08	15.30	17.40	19.18	19.21	16.81
4	17.92	16.76				---	15.24	15.41	17.32	20.90	18.72	16.73
5	17.77	16.73				---	15.29	15.38	17.18	21.35	18.42	16.78
6	17.61	16.58				---	15.25	15.42	16.08	20.12	18.32	16.72
7	17.59	16.62				---	15.17	15.50	16.72	19.20	18.11	16.66
8	17.62	16.62				---	14.99	15.48	16.66	18.62	17.62	16.64
9	17.48	16.60				---	14.98	15.50	16.58	18.38	17.80	16.59
10	17.40	16.52				---	15.11	15.67	16.52	18.60	19.27	16.60
11	17.20	16.60				---	15.08	15.44	16.60	17.01	20.22	16.58
12	17.15	16.72				---	15.16	15.53	16.67	19.07	19.27	16.56
13	17.34	16.60				---	15.10	15.43	16.80	19.09	18.76	16.49
14	17.38	16.65				---	14.76	15.50	16.81	18.60	18.33	16.42
15	17.28	16.67				---	15.18	15.60	19.01	18.31	18.12	16.49
16	17.21	---				---	15.23	15.76	16.53	19.07	18.03	16.40
17	17.17	---				---	15.40	15.62	16.55	21.20	17.94	16.41
18	17.10	---				---	17.53	15.58	17.03	22.03	17.80	16.52
19	17.00	---				15.80	18.23	15.57	17.40	22.50	17.58	16.57
20	16.91	---				15.64	17.70	15.58	17.23	21.67	17.41	16.46
21	16.90	---				15.40	16.67	15.70	17.13	21.01	17.27	16.38
22	16.89	---				15.56	16.01	15.75	16.99	20.53	17.28	16.40
23	16.75	---				15.60	15.86	15.73	17.60	19.61	17.36	16.54
24	16.70	---				15.66	15.63	15.67	19.43	19.25	17.26	16.52
25	16.66	---				15.57	15.62	15.71	20.01	18.96	17.21	16.43
26	16.91	---				15.50	15.61	15.98	18.86	18.71	17.09	16.53
27	16.80	---				15.60	15.47	16.02	18.15	18.55	17.01	16.57
28	16.65	---				15.58	15.37	16.36	17.84	18.20	16.99	16.52
29	16.70	---				15.36	15.28	16.60	17.55	19.21	16.95	16.50
30	16.86	---				15.31	15.33	16.76	17.60	20.60	16.88	16.45
31	16.75	---				15.35	---	16.67	---	20.67	16.77	---
MAX	18.55	16.76				15.80	18.23	16.76	20.01	22.50	20.46	16.81

WTR YR 1980 MEAN 17.13 HIGH 14.76 LOW 22.50

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

SANDUSKY COUNTY--Continued

412703083213600. Local number, S-2.

LOCATION.--Lat 41°27'03", long 83°21'36", Hydrologic Unit 04100010, at water works in Woodville.
Owner: Woodville Water Department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m) depth 198 ft (60.4 m) cased.

DATUM.--Altitude of land-surface datum is 635 ft (194 m) from topographic map. Measuring point: Top of casing at land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 56.62 ft (17.258 m) Sept. 22, 1979; minimum daily low, 18.60 ft (5.669 m) May 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 56.62 ft (17.258 m) Sept. 22; minimum daily low, 23.80 ft (7.254 m) Apr. 25.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.30	25.65	24.78	24.16	27.01	28.36	24.53	25.24	30.18	37.16	44.49	45.85
2	24.87	25.74	25.40	24.29	26.95	31.41	24.51	25.43	38.44	46.78	39.62	42.14
3	24.33	25.96	24.89	26.03	26.96	31.41	23.92	25.51	37.21	42.71	38.05	50.41
4	24.21	26.02	24.61	24.97	27.16	31.41	24.04	26.04	35.48	47.76	29.94	39.08
5	24.31	27.51	24.62	24.81	27.04	30.28	25.04	26.78	31.47	47.53	34.45	43.94
6	24.30	27.67	26.03	24.65	30.96	31.41	25.26	26.32	28.57	46.46	46.00	28.33
7	24.83	27.80	25.24	24.83	31.41	31.41	24.60	26.69	30.50	37.19	50.64	27.88
8	24.63	27.01	25.91	26.33	31.41	31.41	24.79	26.59	32.51	36.76	38.77	44.78
9	24.67	26.88	27.55	26.81	27.54	30.41	24.21	26.74	27.49	35.64	43.01	40.02
10	24.87	27.63	27.25	27.07	27.48	30.41	24.68	26.97	27.83	41.18	46.49	44.91
11	24.38	27.80	26.83	26.61	31.41	29.11	25.10	26.78	27.62	34.98	51.64	45.21
12	24.40	31.41	26.60	26.34	31.41	29.64	24.38	27.34	28.69	28.87	52.11	47.92
13	24.75	27.71	27.76	25.71	31.41	27.98	24.95	36.96	28.73	37.21	49.92	45.52
14	24.59	27.44	31.41	27.41	31.41	28.04	25.19	39.29	31.73	37.81	40.71	45.35
15	25.13	27.08	31.41	26.07	28.16	28.00	24.22	39.86	28.38	44.53	46.91	50.62
16	25.91	31.16	28.25	25.79	31.41	31.41	24.81	35.31	36.82	33.16	51.45	46.45
17	25.51	27.54	27.17	25.67	31.41	31.38	24.30	28.40	39.70	45.94	46.44	46.81
18	25.32	31.41	27.08	26.26	31.41	31.41	24.20	28.33	36.61	52.08	45.73	47.09
19	25.17	28.13	27.08	25.94	28.39	27.05	24.57	27.86	36.85	50.85	48.01	49.50
20	25.24	27.99	31.41	26.88	31.41	26.96	24.99	27.24	33.89	51.90	48.51	50.74
21	25.16	27.89	27.56	25.99	31.41	26.77	24.68	29.47	33.82	43.42	49.99	50.93
22	26.02	28.19	27.16	25.74	31.41	26.31	24.74	31.94	29.68	49.74	53.32	56.62
23	26.20	27.70	31.41	26.65	31.41	25.18	24.89	33.36	34.92	44.79	28.87	54.66
24	25.34	27.84	26.68	27.02	31.41	24.37	24.77	28.62	39.58	51.17	27.80	56.60
25	25.54	27.30	26.47	26.96	30.43	24.48	23.80	32.27	41.12	29.77	42.48	55.22
26	25.76	26.70	25.31	31.41	31.41	25.23	25.36	41.13	40.02	44.87	27.93	55.99
27	25.45	25.97	25.40	27.10	28.29	25.03	25.04	35.60	38.20	44.07	38.99	54.57
28	25.63	25.57	25.30	31.41	30.90	24.62	24.59	39.57	44.71	41.43	47.94	46.52
29	26.06	25.05	24.37	27.44	31.41	25.22	25.34	40.24	40.35	44.45	40.89	48.43
30	25.69	25.05	24.13	27.16	---	24.75	25.06	40.53	37.67	53.56	45.06	54.09
31	25.82	---	24.41	26.97	---	24.50	---	40.86	---	45.88	52.91	---
MAX	26.20	31.41	31.41	31.41	31.41	31.41	25.36	41.13	44.71	53.56	53.32	56.62

WTR YR 1980 MEAN 32.33 HIGH 23.80 LOW 56.62

SENECA COUNTY

410802083093900. Local number, SE-2.

LOCATION.--Lat 41°08'02", long 83°09'39", Hydrologic Unit 04100011, Tiffin State Hospital, Tiffin.
Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in (0.3 m) depth 250 ft (76.2 m), cased.

DATUM.--Altitude of land-surface datum is 740 ft (226 m), from topographic map. Measuring point: Floor of instrument shelter 0.50 ft (0.152 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--July 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.76 ft (7.242 m) Nov. 22, 1965; minimum daily low, 14.81 ft (4.514 m) Mar. 29, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 20.23 ft (6.166 m) Aug. 16-17; minimum daily low, 15.61 ft (4.758 m) Apr. 15.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.86	19.48	17.78	17.04	18.84	19.09	16.07	17.85	18.79	19.23	19.76	19.06
2	18.82	19.51	18.20	17.29	18.84	18.88	16.03	17.96	18.63	19.33	19.71	19.23
3	19.03	19.60	18.21	17.53	18.84	18.73	16.05	17.98	18.49	19.32	19.80	19.37
4	19.03	19.72	17.78	17.55	18.99	18.47	15.65	18.03	18.54	19.37	19.91	19.30
5	18.93	19.72	17.62	17.61	18.90	18.78	15.79	17.93	18.41	19.21	20.03	19.32
6	18.79	19.48	17.62	17.69	18.84	18.84	15.87	18.02	18.09	19.27	20.21	19.29
7	18.96	19.60	17.87	17.73	19.14	18.58	15.86	18.33	18.14	19.19	20.13	19.32
8	19.01	19.38	18.52	18.10	19.18	18.16	15.86	18.46	18.41	19.07	20.05	19.29
9	19.01	19.31	18.51	18.27	19.01	17.99	15.84	18.55	18.26	19.13	20.08	19.32
10	19.01	19.53	18.21	18.26	18.83	17.56	16.13	18.52	18.46	19.03	20.05	19.47
11	18.88	19.66	18.13	17.81	18.93	17.84	16.27	18.58	18.72	19.05	20.08	19.38
12	18.94	19.65	18.54	18.19	19.22	17.90	16.34	18.64	18.79	19.15	20.18	19.43
13	19.31	19.42	18.58	18.07	19.23	17.54	16.42	18.52	18.65	19.23	20.17	19.42
14	19.42	19.52	18.73	17.83	19.29	18.17	16.20	18.83	18.48	19.23	20.04	19.42
15	19.25	19.41	18.72	17.88	19.25	18.26	15.61	18.97	18.58	19.09	20.11	19.55
16	19.24	19.53	18.84	17.83	19.15	18.10	16.03	19.03	18.77	19.11	20.23	19.50
17	19.30	19.39	18.91	17.75	19.23	17.82	16.08	18.89	18.76	19.29	20.23	19.67
18	19.34	19.44	18.82	17.95	19.29	18.16	16.06	18.46	18.59	19.46	19.98	19.82
19	19.21	19.49	18.75	18.07	19.18	18.02	16.14	18.44	18.64	19.52	20.08	19.91
20	19.12	19.66	18.90	18.09	19.11	17.61	16.24	18.35	18.86	19.51	19.95	19.71
21	19.20	19.66	18.91	17.96	19.27	17.01	16.44	18.47	18.93	19.61	19.57	19.64
22	19.21	19.43	18.73	17.72	18.96	16.71	16.42	18.56	18.94	19.56	19.40	19.67
23	19.18	19.29	18.45	17.81	18.88	16.42	16.59	18.43	18.98	19.55	19.41	19.97
24	19.31	19.11	18.16	17.82	18.75	15.96	16.78	18.37	19.04	19.63	19.18	19.97
25	19.46	18.95	17.18	18.29	18.62	16.19	17.16	18.48	19.01	19.63	18.58	19.87
26	19.57	17.69	17.12	18.50	18.85	16.28	17.22	18.63	18.98	19.62	18.95	20.14
27	19.54	17.64	17.00	18.50	18.54	16.32	17.20	18.70	19.06	19.61	19.15	20.17
28	19.08	17.33	17.09	18.57	18.64	16.26	17.26	18.68	18.97	19.62	19.30	20.05
29	19.28	17.38	17.04	18.77	19.08	16.20	17.38	18.67	18.97	19.72	19.34	20.05
30	19.46	17.59	16.81	18.81	---	16.18	17.67	18.69	19.22	19.82	19.34	19.93
31	19.40	---	16.93	18.78	---	15.92	---	18.78	---	19.77	19.30	---
MAX	19.57	19.72	18.91	18.81	19.29	19.09	17.67	19.03	19.22	19.82	20.23	20.17

WTR YR 1980 MEAN 18.60 HIGH 15.61 LOW 20.23

SUMMIT COUNTY

410330081282000. Local number, SU-6.

LOCATION.--Lat 41°03'30", long 81°28'20", Hydrologic Unit 04110002, Seiberling Street, Akron.
Owner: Goodyear Tire and Rubber Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 in (0.6 m), depth 89 ft (27.1 m), cased.

DATUM.--Altitude of land-surface datum is 1,000 ft (305 m) from topographic map. Measuring point: Floor of instrument shelter 2.63 ft (0.802 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--March 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 59.47 ft (18.126 m) Oct. 18, 1947; minimum daily low, 11.95 ft (3.642 m) April 9, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 30.73 ft (9.367 m) Aug. 6; minimum daily low, 11.95 ft (3.642 m) Apr. 9.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	23.74	17.91	13.54	13.08	13.14	12.49	12.55	13.32	24.39	29.90	25.65
2	---	23.74	17.64	13.51	13.08	13.04	12.49	12.56	16.17	24.65	30.16	27.29
3	---	23.78	17.43	13.53	13.08	12.98	12.49	12.55	16.55	24.86	30.29	27.36
4	---	23.68	17.12	13.53	13.08	12.87	12.43	12.50	16.44	24.97	30.38	28.33
5	---	23.69	16.92	13.49	13.09	12.85	12.43	12.47	17.17	25.79	30.59	28.60
6	---	23.69	16.69	13.46	13.09	12.86	12.41	12.54	17.76	26.29	30.73	28.10
7	---	23.79	16.56	13.44	13.12	12.81	12.35	12.63	18.32	26.70	26.21	28.59
8	---	23.84	16.43	13.45	13.13	12.63	12.34	12.69	18.64	27.01	26.27	28.72
9	---	23.85	16.30	13.46	13.10	12.39	11.95	12.94	18.91	27.28	26.42	26.39
10	---	23.81	16.08	13.45	13.01	12.54	12.16	13.01	19.16	27.51	26.53	28.67
11	---	24.08	15.94	13.35	12.95	12.67	12.24	13.10	19.63	27.71	26.61	29.62
12	---	24.56	15.82	13.15	13.06	12.69	12.23	13.05	19.98	27.86	26.69	30.15
13	---	24.74	15.73	13.12	13.14	12.70	12.24	13.04	20.17	28.22	26.82	30.40
14	---	24.92	15.59	13.11	13.15	12.83	12.20	13.15	20.23	28.60	26.94	30.41
15	---	25.05	15.45	13.13	13.13	12.85	12.19	13.24	20.21	28.85	27.04	28.78
16	---	25.20	15.26	13.13	13.11	12.80	12.33	13.29	20.37	29.11	27.06	29.20
17	---	25.39	15.15	13.12	13.10	12.72	12.35	13.29	20.39	29.40	27.02	29.61
18	23.38	25.49	15.10	13.14	13.08	12.80	12.36	13.12	20.74	29.65	27.13	29.94
19	23.49	25.59	14.95	13.16	13.07	12.79	12.36	13.20	21.07	29.76	27.20	30.13
20	23.59	25.68	14.85	13.10	13.10	12.76	12.28	13.27	21.29	29.63	27.23	30.24
21	23.64	25.76	14.78	13.03	13.11	12.69	12.33	13.32	22.18	29.77	27.23	30.26
22	23.77	25.80	14.68	13.03	13.01	12.40	12.34	13.34	22.69	28.25	26.72	30.36
23	23.86	23.68	14.54	13.04	12.85	12.41	12.42	13.38	23.08	28.13	26.05	30.51
24	23.98	21.20	14.40	13.07	12.86	12.43	12.44	13.38	23.47	28.46	26.07	30.61
25	24.12	20.24	14.19	13.14	12.92	12.56	12.51	13.31	23.86	28.76	26.10	30.03
26	24.24	19.66	13.78	13.16	12.97	12.58	12.50	13.33	24.12	28.84	26.07	29.93
27	24.29	19.20	13.78	13.09	13.02	12.59	12.42	13.36	24.43	28.82	26.13	29.98
28	23.61	18.80	13.78	13.05	13.06	12.58	12.46	13.37	24.47	28.93	26.21	29.98
29	23.61	18.49	13.76	13.10	13.14	12.55	12.48	13.24	24.00	29.21	26.23	29.98
30	23.61	18.20	13.66	13.10	---	12.48	12.53	13.25	24.16	29.49	21.58	29.97
31	23.67	---	13.58	13.08	---	12.44	---	13.31	---	29.65	20.23	---
MAX	24.29	25.80	17.91	13.54	13.15	13.14	12.53	13.38	24.47	29.77	30.73	30.61

WTR YR 1980 MEAN 19.09 HIGH 11.95 LOW 30.73

SUMMIT COUNTY--Continued

410846081271600. Local number, SU-7.
LOCATION.--Lat 41°08'46", long 81°27'16", Hydrologic Unit 04110002, Monroe Falls Road, Cuyahoga Falls.
Owner: Cuyahoga Falls Water Department.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled unused water-table, diameter 6 in (0.15 m), depth 100 ft (30.5 m), cased.
DATUM.--Altitude of land-surface datum is 994 ft (303 m), from topographic map. Measuring point: Floor of instrument shelter 5.00 ft (1.524 m) above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--August 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 44.19 ft (13.469 m) Sept. 7, 1971; minimum daily low, 1.40 ft (0.427 m) Sept. 17, 1979.
EXTREMES FOR CURRENT YEAR.--Maximum daily low, 21.08 ft (6.425 m) July 22; minimum daily low, 2.30 ft (0.701 m) Apr. 18.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.33	15.94	13.34	6.13	16.06	15.57	6.42	12.10	14.58	14.84	20.17	16.11
2	13.70	16.19	13.60	7.34	16.40	15.99	6.80	12.53	14.42	15.14	20.34	16.48
3	13.86	16.37	13.90	8.33	16.69	16.43	7.05	13.06	14.25	15.49	20.08	16.90
4	14.00	16.61	14.26	9.24	17.00	16.74	7.05	13.54	14.16	15.62	19.35	17.26
5	14.00	16.85	14.37	10.03	17.31	17.10	6.66	14.06	14.02	15.62	18.24	17.62
6	14.03	16.99	14.67	10.68	17.47	17.44	7.13	14.89	14.05	15.52	17.75	18.24
7	14.15	17.21	14.88	11.55	17.76	17.68	7.42	15.19	13.99	15.75	17.29	18.34
8	14.33	17.32	15.11	12.27	17.90	17.70	7.70	15.40	13.83	15.89	17.03	18.78
9	14.38	17.41	15.26	12.70	18.11	17.17	7.54	15.63	13.18	16.15	12.89	18.91
10	14.13	17.45	15.50	13.15	18.26	15.29	6.02	15.87	12.48	16.32	10.69	19.33
11	13.78	17.26	15.66	13.31	18.42	13.88	6.13	15.87	11.84	16.44	10.18	19.31
12	13.41	17.00	15.93	13.27	18.63	12.94	5.96	15.77	11.00	16.57	9.73	19.53
13	12.99	16.83	16.14	12.70	18.86	12.75	5.54	15.61	10.59	16.57	9.79	19.59
14	12.93	16.73	16.31	12.32	19.02	13.16	5.51	15.41	10.71	16.80	9.96	19.31
15	12.94	16.47	16.56	12.21	19.15	13.58	5.19	15.41	10.71	17.26	10.83	18.95
16	13.00	16.25	16.76	11.79	19.28	13.85	3.26	15.20	10.56	18.00	11.15	17.44
17	12.90	16.04	17.00	11.38	19.48	14.17	2.72	14.65	10.90	18.58	11.43	16.43
18	12.65	16.03	17.18	11.51	19.67	14.20	2.30	14.38	11.11	19.02	11.85	16.15
19	12.52	16.13	17.36	11.69	19.79	14.00	3.57	13.72	11.77	19.61	12.25	16.03
20	12.68	16.19	17.64	12.00	19.90	13.78	5.10	13.08	11.90	20.21	12.82	16.14
21	12.80	16.24	17.80	12.41	20.05	13.51	6.19	12.83	12.10	20.96	13.49	16.32
22	13.20	16.32	17.90	12.78	20.09	12.05	7.00	12.78	12.18	21.08	13.61	16.73
23	13.79	16.26	17.96	13.13	19.95	8.14	8.10	12.78	13.27	20.80	13.64	16.72
24	14.07	16.27	17.83	13.53	18.88	6.27	9.05	12.77	13.68	20.73	13.68	16.70
25	14.38	16.02	17.47	13.93	17.12	4.80	9.46	12.81	14.16	20.72	13.91	16.75
26	14.54	15.55	14.85	14.28	15.85	4.37	9.94	12.80	14.64	20.55	14.26	16.76
27	14.63	15.09	7.73	14.61	14.96	5.08	10.24	12.99	15.10	20.58	14.65	16.87
28	14.91	14.39	4.73	14.90	14.74	5.76	10.56	13.50	15.22	20.51	15.20	17.02
29	15.28	13.85	3.01	15.20	15.09	6.09	11.05	13.88	15.22	20.42	15.67	17.28
30	15.58	13.48	3.53	15.43	---	6.36	11.61	14.27	15.00	20.36	15.77	17.46
31	15.78	---	4.71	15.74	---	6.48	---	14.58	---	20.19	16.00	---
MAX	15.78	17.45	17.96	15.74	20.09	17.70	11.61	15.87	15.22	21.08	20.34	19.59

WTR YR 1980 MEAN 14.22 HIGH 2.30 LOW 21.08

VAN WERT COUNTY

405215084335400. Local number, VW-1.

LOCATION.--Lat 40°52'15", long 84°33'54", Hydrologic Unit 04100007, Ridge Road near Van Wert.
Owner: Marsh Foundation.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.2 m), depth 340 ft (103.6 m), cased.

DATUM.--Altitude of land-surface datum is 790.37 ft (240.905 m). Measuring point: Floor of instrument shelter 6.15 ft (1.874 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--August 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low 32.81 ft (10.00 m) Mar. 2, 1977; minimum daily low, 18.85 ft (5.745 m) Mar. 6, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily low 29.25 ft (8.915 m) Nov. 5; minimum daily low 27.05 ft (8.245 m) Feb. 24.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.90	28.95	28.90	28.25	28.45	28.40	27.75	27.35	27.55	27.50	27.35	27.25
2	28.10	29.00	29.20	28.25	28.35	28.30	27.75	27.35	27.40	27.55	27.30	27.30
3	28.80	29.05	29.15	28.40	28.35	28.25	27.65	27.35	27.45	27.55	27.20	27.45
4	28.85	29.20	28.80	28.25	28.35	27.90	27.55	27.35	27.55	27.60	27.25	27.40
5	28.85	29.25	28.50	28.35	28.30	28.05	27.65	27.25	27.55	27.45	27.35	27.45
6	28.70	29.05	28.30	28.35	28.15	28.15	27.70	27.15	27.35	27.65	27.50	27.40
7	28.85	29.10	28.55	28.30	28.35	28.00	27.55	27.35	27.30	27.60	27.50	27.40
8	28.90	28.95	28.95	28.45	28.35	27.85	27.45	27.35	27.55	27.40	27.40	27.35
9	28.90	28.75	28.95	28.55	28.15	27.90	27.35	27.40	27.35	27.45	27.40	27.30
10	28.95	28.95	28.75	28.45	28.00	27.75	27.55	27.30	27.55	27.35	27.30	27.40
11	28.70	29.15	28.50	28.30	28.00	28.05	27.65	27.25	27.70	27.35	27.30	27.40
12	28.80	29.20	28.75	28.55	28.15	28.10	27.65	27.35	27.75	27.30	27.35	27.30
13	29.10	29.05	28.80	28.35	28.15	27.85	27.65	27.35	27.60	27.45	27.35	27.25
14	29.20	29.15	28.95	28.35	28.15	28.15	27.45	27.55	27.45	27.45	27.25	27.20
15	29.05	28.95	28.85	28.40	28.10	28.20	27.35	27.70	27.40	27.35	27.25	27.25
16	29.00	29.10	28.90	28.25	27.95	28.05	27.75	27.75	27.55	27.35	27.35	27.30
17	29.05	28.95	28.95	28.20	28.00	27.80	27.80	27.65	27.55	27.40	27.30	27.10
18	29.05	28.95	28.85	28.35	28.05	28.10	27.70	27.45	27.45	27.55	27.20	27.35
19	28.95	29.00	28.60	28.45	27.90	28.05	27.65	27.45	27.40	27.60	27.25	27.40
20	28.85	29.10	28.75	28.45	27.65	27.80	27.60	27.45	27.55	27.55	27.20	27.45
21	28.85	29.10	28.70	28.30	27.95	27.75	27.60	27.50	27.55	27.55	27.20	27.30
22	28.85	28.90	28.50	27.90	27.85	27.90	27.50	27.60	27.50	27.50	27.40	27.15
23	28.75	28.85	28.30	27.95	27.95	27.90	27.25	27.50	27.45	27.55	27.50	27.20
24	28.90	28.95	28.20	27.85	27.05	27.70	27.25	27.40	27.45	27.65	27.50	27.35
25	29.00	28.95	28.25	28.10	28.15	27.90	27.40	27.45	27.45	27.60	27.45	27.35
26	29.10	28.70	28.40	28.25	28.25	27.95	27.40	27.60	27.45	27.55	27.35	27.35
27	29.05	28.80	28.65	28.25	27.95	28.00	27.30	27.70	27.45	27.50	27.40	27.55
28	28.80	28.70	28.75	28.35	28.10	27.90	27.20	27.65	27.40	27.40	27.45	27.55
29	28.95	28.70	28.65	28.45	28.45	27.70	27.15	27.55	27.35	27.40	27.45	27.45
30	29.10	28.75	28.40	28.45	---	27.70	27.25	27.50	27.45	27.45	27.40	27.25
31	29.00	---	28.25	28.45	---	27.55	---	27.60	---	27.35	27.30	---
MAX	29.20	29.25	29.20	28.55	28.45	28.40	27.80	27.75	27.75	27.65	27.50	27.55

WTR YR 1980 MEAN 27.96 HIGH 27.05 LOW 29.25

WILLIAMS COUNTY

413108084415300. Local number, WM-12.

LOCATION.--Lat 41°31'08", long 84°41'53", Hydrologic Unit 04100003, 1.7 mi (2.7 km) east of Blakeslee.
Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 10 in (0.25 m), depth 115 ft (35.1 m), cased to 115 ft (35.1 m), screened 85 ft to 115 ft (25.9 m to 35.1 m).

DATUM.--Altitude of land-surface datum is 830 ft (253 m), from topographic map. Measuring point: Floor of instrument shelter 1.50 ft (0.457 m) above land-surface datum.

PERIOD OF RECORD.--1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 10.56 ft (3.219 m) Feb. 6-7, 1977; minimum daily low, 4.94 ft (1.506 m) Mar. 24, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 10.10 ft (3.078 m) Oct. 30; minimum daily low, 5.79 ft (1.765 m) Apr. 7.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.83	10.00	8.87	7.52	9.05	8.54	6.56	7.72	8.41	8.91	8.72	9.13
2	9.84	10.02	9.09	7.77	9.06	8.55	6.57	7.78	8.22	9.00	8.72	9.13
3	9.90	10.04	9.08	8.00	9.10	8.52	6.57	7.84	8.04	9.00	8.85	9.12
4	9.92	10.09	8.97	8.04	9.12	8.53	6.03	7.89	8.04	9.01	8.90	9.05
5	9.90	10.04	8.89	8.22	9.12	8.74	5.90	7.88	7.90	9.00	9.00	8.93
6	9.87	10.04	8.93	8.25	9.13	8.79	5.81	7.96	7.58	9.04	9.07	8.87
7	9.98	10.04	9.02	8.39	9.25	8.76	5.79	8.14	7.49	8.95	9.06	8.89
8	9.98	9.92	9.31	8.58	9.26	8.70	5.85	8.22	7.15	8.68	9.07	8.94
9	10.00	9.93	9.28	8.68	9.18	8.72	6.00	8.28	6.84	8.70	9.12	9.03
10	9.98	10.01	9.14	8.65	9.12	8.46	6.23	8.28	6.69	8.51	9.13	9.10
11	9.88	10.07	9.10	8.51	9.19	8.51	6.33	8.37	6.72	8.58	9.15	9.09
12	9.93	10.05	9.24	8.71	9.30	8.53	6.49	8.41	6.85	8.62	9.09	9.13
13	10.07	9.96	9.23	8.58	9.31	8.33	6.57	8.40	7.65	8.61	9.09	9.13
14	10.07	10.01	9.23	8.65	9.32	8.62	6.49	8.51	7.26	8.52	9.04	9.21
15	9.99	9.94	9.20	8.69	9.29	8.65	6.28	8.52	7.53	8.43	9.10	9.25
16	9.99	10.03	9.28	8.66	9.29	8.50	6.48	8.58	7.76	8.51	9.14	9.20
17	10.03	9.95	9.32	8.57	9.31	8.21	6.50	8.51	7.83	8.67	9.12	9.11
18	10.04	9.96	9.27	8.59	9.33	7.33	6.58	8.06	7.89	8.74	8.92	9.11
19	9.96	9.98	9.23	8.61	9.29	7.00	6.70	7.68	8.05	8.80	8.77	9.11
20	9.96	10.06	9.34	8.60	9.28	6.29	6.89	7.47	8.19	8.85	8.69	9.05
21	9.99	10.05	9.31	8.54	9.34	5.96	7.08	7.30	8.24	8.93	8.57	9.10
22	9.99	9.94	9.23	8.41	9.12	6.08	7.13	7.31	8.34	8.82	8.57	9.16
23	9.99	9.89	9.13	8.57	8.75	6.09	7.36	7.39	8.43	8.57	8.61	9.28
24	10.03	9.76	8.87	8.56	8.48	6.01	7.52	7.59	8.50	8.55	8.65	9.26
25	10.08	9.62	7.83	8.77	8.26	6.16	7.68	7.85	8.55	8.68	8.73	9.27
26	10.08	9.17	7.48	8.84	8.21	6.30	7.75	8.03	8.60	8.74	8.82	9.40
27	10.03	9.21	7.09	8.84	8.07	6.38	7.77	8.12	8.67	8.80	8.91	9.40
28	9.99	8.95	6.91	8.89	8.25	6.40	7.71	8.18	8.70	8.79	8.99	9.37
29	10.07	8.80	6.92	8.99	8.54	6.40	7.55	8.24	8.77	8.60	9.03	9.38
30	10.10	8.74	7.06	8.99	---	6.39	7.62	8.31	8.88	8.59	9.04	9.33
31	10.01	---	7.31	9.01	---	6.44	---	8.42	---	8.64	9.07	---
MAX	10.10	10.09	9.34	9.01	9.34	8.79	7.77	8.58	8.88	9.04	9.15	9.40

WTR YR 1980 MEAN 8.59 HIGH 5.79 LOW 10.10

WYANDOT COUNTY

405009083172600. Local number, WY-1.

LOCATION.--Lat 40°50'09", long 83°17'26", Hydrologic Unit 04100011, State Route 199, Upper Sandusky.
Owner: Karg Supply Company.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in (0.13 m), depth 90 ft (27.4 m), cased.

DATUM.--Altitude of land-surface datum is 850 ft (259 m), from topographic map. Measuring point: Floor of instrument shelter 3.00 ft (0.914 m) above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--September 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 40.90 ft (12.466 m) July 12, 15, 17, 21, Aug. 26, 1961; minimum daily low, 25.75 ft (8.123 m) Apr. 16, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum daily low, 28.00 ft (9.092 m) Sept. 27; minimum daily low, 25.75 ft (8.306 m) Apr. 16.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.75	27.80	27.55	26.45	26.65	26.85	25.95	26.30	26.80	26.75	27.00	27.45
2	27.65	27.75	27.50	26.45	26.65	26.80	26.10	26.45	26.60	26.85	27.00	27.30
3	27.75	27.80	27.45	26.60	26.65	26.75	26.15	26.45	26.50	26.90	27.00	27.50
4	27.80	27.80	27.40	26.65	26.60	26.65	26.20	26.45	26.45	26.90	26.90	27.55
5	27.80	27.80	27.40	26.65	26.65	26.60	26.00	26.35	26.40	26.85	27.00	27.65
6	27.75	27.75	27.35	26.65	26.65	26.65	25.95	26.55	26.40	26.70	27.15	27.65
7	27.60	27.75	27.25	26.45	26.70	26.65	25.85	26.70	26.35	26.70	27.25	27.60
8	27.55	27.85	27.35	26.65	26.75	26.65	25.85	26.75	26.20	26.75	27.25	27.50
9	27.65	27.75	27.40	26.80	26.75	26.40	25.90	26.75	26.15	26.80	27.25	27.60
10	27.70	27.75	27.35	26.75	26.70	26.25	25.95	26.75	26.15	26.80	27.25	27.75
11	27.70	---	27.25	26.70	26.55	26.50	26.05	26.75	26.30	26.80	27.20	27.75
12	27.65	---	27.30	26.65	26.55	26.55	26.15	26.55	26.35	26.85	27.15	27.80
13	27.70	---	27.35	26.65	26.70	26.60	26.15	26.65	26.40	26.85	27.25	27.80
14	27.70	27.95	27.50	26.45	26.75	26.50	26.00	26.75	26.40	26.75	27.25	27.70
15	27.65	27.95	27.50	26.55	26.75	26.60	25.80	26.95	26.35	26.75	27.25	27.75
16	27.75	27.95	27.40	26.55	26.75	26.60	25.75	27.05	26.35	26.85	27.25	27.75
17	27.80	27.95	27.35	26.55	26.65	26.55	26.00	27.05	26.30	26.85	27.30	27.75
18	27.85	27.90	27.40	26.55	26.65	26.35	26.10	26.95	26.35	26.95	27.25	27.80
19	27.85	27.70	27.40	26.60	26.65	26.55	26.15	26.60	26.35	27.05	27.15	27.85
20	27.85	27.80	27.35	26.60	26.65	26.65	26.10	26.75	26.40	27.05	27.15	27.85
21	27.80	27.85	27.35	26.50	26.65	26.60	25.95	26.85	26.45	27.00	27.15	27.80
22	27.65	27.85	27.35	26.40	26.65	26.40	25.90	26.90	26.45	27.00	27.20	27.70
23	27.65	27.70	27.20	26.30	26.60	26.40	25.95	26.90	26.45	27.05	27.25	27.80
24	27.65	27.45	26.95	26.25	26.60	26.30	26.05	26.90	26.55	27.10	27.25	27.85
25	27.75	27.40	26.60	26.25	26.55	26.10	26.15	26.80	26.60	27.15	27.25	27.80
26	27.80	27.30	26.40	26.40	26.60	26.25	26.20	26.55	26.60	27.15	27.35	27.95
27	27.90	27.25	26.65	26.40	26.60	26.35	26.20	26.55	26.65	27.20	27.40	28.00
28	27.90	27.35	26.75	26.40	26.60	26.40	26.00	26.75	26.70	27.10	27.50	27.95
29	27.70	27.45	26.80	26.45	26.70	26.40	26.05	26.85	26.65	26.90	27.70	27.85
30	27.65	27.50	26.75	26.55	---	26.25	26.20	26.90	26.60	26.90	27.70	27.90
31	27.80	---	26.50	26.60	---	26.10	---	26.90	---	26.95	27.60	---
MAX	27.90	27.95	27.55	26.80	26.75	26.85	26.20	27.05	26.80	27.20	27.70	28.00

WTR YR 1980 MEAN 26.94 HIGH 25.75 LOW 28.00

GROUND-WATER RECORDS FOR GEAUGA COUNTY PROJECT

The following tables contain chemical analyses and water-level measurements from a network of wells in Geauga County. The data was collected as part of a cooperative study with the Geauga County Sanitary Engineering Department for evaluating ground-water resources.

412212081043000. Local number, GE-95.
LOCATION.--Lat 41°22'12", long 81°04'30", Hydrologic Unit 04110004, on State Route 422, west of Parkman.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled public well, cased.
DATUM.--Altitude of land-surface datum is 1,090 ft (332 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 20...	1600	400	6.4	11.5	0.1	130	110	33	11	17	22

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 20...	.7	1.4	120	0	14	11	52	35	.2	11	261

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 20...	240	.36	.00	.01	.00	.03	.00	.04	.07	.02	.07

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 20...	.02	.05	.07	.31	.010	.03	.000	19000	830	2.4

412345081192100. Local number, GE-20Q.
LOCATION.--Lat 41°23'45", long 81°19'21", Hydrologic Unit 04110003, on Haskins Road near Bainbridge.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 53 ft (16.2 m), cased total depth.
DATUM.--Altitude of land-surface datum is 1,120 ft (341 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
21...	1000	640	7.1	12.0	17	320	98	91	22	8.9	6

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG											
21...	.2	1.5	290	0	220	34	86	21	.1	11	434

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG											
21...	376	.59	.00	.00	.02	.02	.02	.03	.08	.00	.10

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
21...	.09	.02	.10	.44	.000	.00	.000	2400	150	.3

412512081221501. Local number, GE-18Q.
LOCATION.--Lat 41°25'12", long 81°22'15", Hydrologic Unit 04110003, at Chagrin Falls well field.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled municipal supply well, diameter 12 in (0.31 m), cased.
DATUM.--Altitude of land-surface datum is 1,135 ft (346 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 26...	1045	210	6.0	10.0	.30	89	45	25	6.5	3.1	7

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 26...	.1	.7	53	0	44	88	43	4.0	.1	9.5	130

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
AUG 26...	122	.18	.78	.74	.00	.02	.00	.03	.40	.20	.40

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 26...	.18	.22	1.2	5.1	.020	.06	.020	80	10	.5

412514081202200. Local number, GE-39.
LOCATION.--Lat 41°25'14", long 81°20'22", Hydrologic Unit 04110003, at McFarland's Corners.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled commercial well, diameter 6 in (0.15 m), depth 78 ft (23.8 m), cased.
DATUM.--Altitude of land-surface datum is 1,200 ft (366 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
MAY											
08...	1440	835	6.7	13.0	1.5	340	160	92	26	54	26
AUG											
19...	1130	850	6.6	13.0	.10	350	190	97	26	45	22

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
MAY											
08...	1.3	4.8	210	0	170	70	86	150	.2	9.8	582
AUG											
19...	1.0	4.3	190	0	160	76	79	140	.2	11	652

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
MAY											
08...	539	.79	1.9	1.7	.03	.02	.04	.03	.19	.12	.22
AUG											
19...	508	.89	2.3	2.2	.01	.01	.01	.01	.10	.14	.11

DATE	NITRO-GEN, AM-MONIA + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY										
08...	.08	.14	2.1	9.4	.010	.03	.010	10	0	1.6
AUG										
19...	.00	.15	2.4	11	.040	.12	.000	40	10	.9

412522081092000. Local number, GE-67.
LOCATION.--Lat 41°25'22", long 81°09'20", Hydrologic Unit 04110002, at Russell Park on Rapids Road.
AQUIFER.--Shale of Mississippian Age.
WELL CHARACTERISTICS.--Drilled public well, diameter 6 in (0.15 m), depth 90 ft (27.4 m), cased to 75 ft (22.9 m).
DATUM.--Altitude of land-surface datum is 1,100 ft (335 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
MAY											
06...	1010	433	8.2	12.5	.00	43	0	11	3.7	78	79
AUG											
19...	1415	470	7.8	11.5	5.5	58	0	16	4.5	79	74

DATE	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
MAY											
06...	5.2	2.5	280	0	230	2.8	3.4	12	1.2	8.1	264
AUG											
19...	4.5	2.4	268	0	220	6.8	2.3	11	1.1	9.0	262

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
MAY											
06...	246	.36	.01	.01	.33	.35	.43	.45	.13	.00	.46
AUG											
19...	258	.36	.00	.00	.10	.30	.13	.39	.02	.26	.12

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY										
06...	.12	.35	.47	2.1	.020	.06	.020	150	10	2.7
AUG										
19...	.00	.56	.12	.53	.000	.00	.000	80	20	1.2

412555081095000. Local number, GE-97.

LOCATION.--Lat 41°25'55", long 81°09'50", Hydrologic Unit 04110002, 2.5 mi (4.0 km) south of Burton, on Rapids Road.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in (0.15 m), depth 87 ft (26.5 m), cased.

DATUM.--Altitude of land-surface datum is 1,150 ft (351 m), from topographic map. Measuring point: Floor of instrument shelter 0.80 ft (0.24 m), above land-surface datum.

PERIOD OF RECORD.--April 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.25 ft (2.82 m) below land-surface datum, Apr. 15, 1980; lowest, 16.57 ft (5.05 m) below land-surface datum, Sept. 27, 1980.

EXTREMES FOR CURRENT YEAR.--Highest water level, 9.25 ft (2.82 m) below land-surface datum, Apr. 15, 1980; lowest, 16.57 ft (5.05 m) below land-surface datum, Sept. 27, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	12.16	14.30	15.06	16.01	15.77
2							---	12.24	14.33	15.13	16.00	15.86
3							---	12.32	14.49	15.16	15.93	15.91
4							---	12.38	14.56	15.16	15.78	15.90
5							---	12.48	14.59	15.20	15.86	15.91
6							---	12.55	14.56	15.30	15.88	15.93
7							10.70	12.78	14.59	15.33	15.66	15.97
8							10.81	12.90	14.54	15.28	15.61	15.90
9							10.41	13.00	14.46	15.29	15.61	16.01
10							10.24	13.08	14.36	15.29	15.61	16.08
11							10.20	13.19	14.37	15.33	15.60	16.08
12							10.41	13.23	14.38	15.41	15.65	16.16
13							10.51	13.23	14.33	15.48	15.68	16.16
14							10.34	13.41	14.28	15.51	15.62	16.12
15							9.58	13.42	14.30	15.49	15.60	16.18
16							9.66	13.50	14.47	15.51	15.76	16.17
17							9.97	13.57	14.50	15.58	15.77	16.26
18							10.11	13.55	14.66	15.65	15.70	16.30
19							10.24	13.56	14.67	15.66	15.74	16.31
20							10.47	13.54	14.68	15.67	15.74	16.25
21							10.68	13.64	14.64	15.71	15.76	16.27
22							10.71	13.68	14.68	15.72	15.75	16.32
23							11.02	13.88	14.71	15.80	15.77	16.45
24							11.08	13.88	14.77	15.84	15.75	16.43
25							11.42	13.97	14.80	15.86	15.72	16.42
26							11.49	14.07	14.81	15.87	15.71	16.56
27							11.51	14.12	14.90	15.87	15.72	16.57
28							11.56	14.14	14.89	15.88	15.77	16.55
29							11.70	14.18	14.91	15.93	15.77	16.55
30							11.87	14.20	15.06	15.99	15.74	16.51
31							---	14.28	---	16.00	15.74	---
MAX							11.87	14.28	15.06	16.00	16.01	16.57

WTR YR 1980 MEAN 14.49 HIGH 9.58 LOW 16.57

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

412637081040100. Local number, GE-119.
LOCATION.--Lat 41°26'37", long 81°04'01", Hydrologic Unit 04110002, at County Airport near Middlefield.
AQUIFER.--Sandstone and shale of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled commercial well, diameter 6 in (0.15 m), depth 79 ft (24.1 m), cased to 21 ft (6.4 m).
DATUM.--Altitude of land-surface datum is 1,185 ft (361 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 20...	1500	295	6.8	12.0	.60	120	30	30	12	9.1	14

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 20...	.4	1.2	110	0	90	109	70	9.0	.2	11	200

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
AUG 20...	190	.27	.00	.00	.00	.03	.04	.04	.01	.00	.05

DATE	NITRO-GEN, AM-MONIA + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 20...	.01	.03	.05	.04	.000	.00	.000	23000	1600	.2

412713081123200. Local number, GE-92
LOCATION.--Lat 41°27'13", long 81°12'32", Hydrologic Unit 04110002, at Punderson Lake State Park.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled public well, depth 72 ft (21.9 m), cased.
DATUM.--Altitude of land-surface datum is 1,080 ft (329 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 26...	1230	675	7.1	11.0	10	390	120	90	39	11	6

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 26...	.2	1.5	380	0	270	42	86	3.0	.2	17	433

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 26...	413	.59	.01	.02	.11	.10	.13	.13	.52	.22	.63

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 26...	.31	.32	.64	2.8	.040	.12	.010	2500	100	.5

412718081102400. Local number, GE-98.

LOCATION.--Lat 41°27'18", long 81°10'24", Hydrologic Unit 04110002, 1.3 mi (2.1 km) southwest of Burton, on Hotchkiss Road.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in (0.15 m), depth 108 ft (32.9 m), cased.

DATUM.--Altitude of land-surface datum is 1,120 ft (341 m), from topographic map. Measuring point: Floor of instrument shelter 1.40 ft (0.427 m), above land-surface datum.

REMARKS.--Interruptions in the water-level record were due to malfunction of the instrument.

PERIOD OF RECORD.--April 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.30 ft (1.92 m) below land-surface datum, Apr. 28, 29, 1980; lowest, 8.23 ft (2.51 m) below land-surface datum, Aug. 1, 2, 1980.

EXTREMES FOR CURRENT YEAR.--Highest water level, 6.30 ft (1.92 m) below land-surface datum, Apr. 28, 29, 1980; lowest, 8.23 ft (2.51 m) below land-surface datum, Aug. 1, 2, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	---	7.74	8.23	
2							---	---	---	7.77	8.23	
3							---	---	---	7.80	8.12	
4							---	---	---	7.82	7.99	
5							---	6.94	---	7.83	7.93	
6							---	6.98	---	7.87	7.94	
7							---	7.03	---	7.88	7.94	
8							---	7.07	---	7.87	7.95	
9							---	7.09	---	7.80	7.97	
10							---	7.11	---	7.79	7.97	
11							---	7.13	---	7.82	7.95	
12							---	7.13	---	7.85	7.95	
13							---	7.10	---	7.89	7.95	
14							---	7.08	---	7.91	7.97	
15							---	7.09	---	7.93	8.02	
16							---	7.10	---	7.94	8.02	
17							---	7.10	7.37	7.98	---	
18							---	7.06	7.39	8.00	---	
19							---	7.05	7.41	8.02	---	
20							---	7.02	7.46	8.04	---	
21							---	---	7.49	8.08	---	
22							6.64	---	7.52	8.07	---	
23							6.57	---	7.54	8.10	---	
24							6.56	---	7.58	8.13	---	
25							6.57	---	7.61	8.15	---	
26							6.57	---	7.63	8.17	---	
27							6.51	---	7.67	8.18	---	
28							6.37	---	7.70	8.17	---	
29							6.32	---	7.70	8.18	---	
30							---	---	7.72	8.21	---	
31							---	---	---	8.21	---	
MAX							6.64	7.13	7.72	8.21	8.23	

WTR YR 1980 MEAN 7.60 HIGH 6.32 LOW 8.23

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

412752081202800. Local number, GE-87.
LOCATION.--Lat 41°27'52", long 81°20'28", Hydrologic Unit 04110003, near Russell Center.
AQUIFER.--Shale of Mississippian Age.
WELL CHARACTERISTICS.--Drilled public well, depth 100 ft (30.5 m), cased.
DATUM.--Altitude of land-surface datum is 1,075 (328 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 19...	1000	500	7.4	13.0	.50	130	0	33	11	50	45

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 19...	1.9	2.4	280	0	220	17	5.8	15	.3	15	275

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 19...	265	.37	.01	.01	.35	.37	.42	.48	.00	.00	.35

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 19...	.00	.37	.37	1.6	.040	.12	.000	250	50	.4

412905081045500. Local number, GE-42.
LOCATION.--Lat 41°29'05", long 81°04'55", Hydrologic Unit 04110002, on State Route 608 north of Middlefield.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled municipal supply well, diameter 12 in (0.31 m), depth 84 ft (25.6 m), cased to 70 ft (21.3 m).
DATUM.--Altitude of land-surface datum is 1,140 ft (347 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 26...	1415	450	7.5	11.5	1.4	170	0	45	15	27	25

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 26...	.9	2.0	240	0	180	11	23	22	.4	17	263

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 26...	260	.36	.02	.02	.25	.28	.30	.36	.05	.00	.30

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 26...	.07	.28	.32	1.4	.080	.24	.080	470	30	.5

412926081144300. Local number, GE-116.

LOCATION.--Lat 41°29'26", long 81°14'43", Hydrologic Unit 04110002, at intersection of Fairmont and Auburn Roads, near Newbury Center.

AQUIFER.--Gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 112 ft (34.1 m), cased total depth.

DATUM.--Altitude of land-surface datum is 1,182 ft (360 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
19...	1600	530	7.2	13.0	2.0	260	6	69	22	7.2	6

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG											
19...	.2	1.2	310	0	254	23	42	1.3	.2	16	298

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)
AUG											
19...	274	.41	.01	.00	.03	.01	.04	.01	.00	.00	.03

DATE	NITRO-GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
19...	.02	.01	.04	.18	.030	.09	.030	1100	140	.1

412949081104600. Local number, GE-68.
LOCATION.--Lat 41°29'49", long 81°10'46", Hydrologic Unit 04110002, on Butternut Road near Burton.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled commercial well, diameter 6 in (0.15 m), depth 55 ft (16.8 in), cased to 18 ft (5.5 m).
DATUM.--Altitude of land-surface datum is 1,200 ft (366 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
27...	1120	170	5.6	11.5	.20	55	28	16	3.6	6.2	19

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG											
27...	.4	1.7	28	0	27	132	19	13	.1	10	107

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG											
27...	99	.15	3.0	2.9	.00	.02	.00	.03	.11	.13	.11

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
27...	.00	.15	3.1	14	.030	.09	.010	80	10	.5

413117081171900. Local number, GE-108.
LOCATION.--Lat 41°31'17", long 81°17'19", Hydrologic Unit 04110003, on Rosetta Drive near Fowlers Mill.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 132 ft (40.2), cased total depth.
DATUM.--Altitude of land-surface datum is 1,120 ft (341 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
21...	1200	330	7.5	13.0	3.6	130	0	32	12	20	25

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG											
21...	.8	1.4	210	0	172	9.3	12	.9	.4	15	204

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG											
21...	185	.28	.00	.01	.21	.21	.25	.27	.02	.00	.23

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
21...	.05	.21	.23	1.0	.020	.06	.000	560	40	.2

413144081142700. Local number, GE-86.
LOCATION.--Lat 41°31'44", long 81°14'27", Hydrologic Unit 04110003, near Fowlers Mill.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 150 ft (45.7 m), cased.
DATUM.--Altitude of land-surface datum is 1,272 ft (388 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
18...	1545	485	7.2	14.0	8.3	160	0	43	12	37	34

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG											
18...	1.3	1.8	250	0	200	25	36	5.1	.3	17	276

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG											
18...	274	.38	.00	.01	.15	.16	.18	.21	.04	.05	.19

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
18...	.00	.21	.19	.84	.000	.00	.000	1100	30	.4

413207081044400. Local number, GE-112.
LOCATION.--Lat 41°32'07", long 81°04'44", Hydrologic Unit 04110002, on State Route 322 west of Huntsburg.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled commercial well, diameter 6 in (0.15 m), depth 80 ft (24.4 m), cased to 24 ft (7.3 m).
DATUM.--Altitude of land-surface datum is 1,275 ft (389 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 20...	1800	630	6.7	13.0	.40	300	98	83	22	12	8

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 20...	.3	1.2	300	0	200	78	52	49	.2	8.9	452

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 20...	356	.61	1.5	1.6	.01	.01	.01	.01	.17	.14	.18

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 20...	.03	.15	1.7	7.4	.000	.00	.000	170	10	4.5

413243081215000. Local number, GE-61.
LOCATION.--Lat 41°32'43", long 81°21'50", Hydrologic Unit 04110003, at Wilson Mills and Caves Roads near Chesterland.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled public well, diameter 6 in (0.15 m), depth 96 ft (29.3 m), cased to 17 ft (5.2 m).
DATUM.--Altitude of land-surface datum is 1,195 ft (364 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 26...	0845	290	6.2	11.0	.30	130	48	38	8.3	4.2	7

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 26...	.2	1.2	100	0	81	100	42	7.4	.1	10	186

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
AUG 26...	166	.25	1.4	1.4	.00	.01	.00	.01	.01	.03	.01

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 26...	.00	.04	1.4	6.2	.040	.12	.040	40	10	.5

413258081100900. Local number, GE-55.
LOCATION.--Lat 41°32'58", long 81°10'09", Hydrologic Unit 04110002, at Aquillah Lake Wildlife Area.
AQUIFER.--Shale of Mississippian Age.
WELL CHARACTERISTICS.--Drilled public well, diameter 6 in (0.15 m), depth 125 ft (38.1 m), cased to 65 ft (19.8 m).
DATUM.--Altitude of land-surface datum is 1,147 ft (350 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
MAY											
05...	1710	578	8.7	13.0	.40	5	0	1.4	.3	140	98
AUG											
19...	1645	630	8.1	13.0	.30	4	0	1.0	.4	130	98

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
MAY											
05...	28	1.1	320	0	260	1.0	2.9	45	.8	7.8	362
AUG											
19...	28	1.2	310	0	254	3.7	4.2	45	.8	8.8	361

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
MAY											
05...	350	.49	.02	.02	.37	.36	.45	.46	.08	.08	.45
AUG											
19...	336	.49	.03	.03	.36	.35	.44	.45	.00	.00	.36

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY										
05...	.01	.44	.47	2.1	.060	.18	.050	40	6	.6
AUG										
19...	.00	.35	.39	1.7	.040	.12	.030	60	10	.1

413336081202000. Local number, GE-37.
LOCATION.--Lat 41°33'36", long 81°20'20", Hydrologic Unit 04110003, near Chesterland.
AQUIFER.--Sandstone of Mississippian Age.
WELL CHARACTERISTICS.--Drilled commercial well, depth 240 ft (73.2 m), cased.
DATUM.--Altitude of land-surface datum is 1,300 ft (396 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
MAY 05...	1315	690	7.5	12.5	5.6	330	32	77	34	35	18
AUG 18...	1400	750	7.7	14.0	4.1	350	0	81	35	23	13

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
MAY 05...	.8	3.0	490	0	400	19	19	9.2	.4	19	388
AUG 18...	.5	3.1	480	0	394	15	21	4.1	.4	20	428

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
MAY 05...	379	.53	.01	.02	.27	.76	.33	.98	.23	.00	.50
AUG 18...	417	.58	.02	.02	.40	.40	.48	.52	.00	.00	.40

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
MAY 05...	.04	.76	.51	2.3	.020	.06	.010	1600	70	1.1
AUG 18...	.06	.40	.42	1.9	.020	.06	.000	1200	80	.6

413346081122302. Local number, GE-53Q.
LOCATION.--Lat 41°33'46", long 81°12'23", Hydrologic Unit 04110003, on Woodiebrook Road, south of Chardon.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled municipal supply well.
DATUM.--Altitude of land-surface datum is 1,150 ft (351 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 21...	1115	465	7.6	12.0	.50	220	32	62	16	9.0	8

DATE	SODIUM AD-SORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 21...	.3	1.3	230	0	189	7.8	26	24	.2	18	290

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 21...	270	.39	.00	.00	.06	.06	.07	.08	.00	.12	.06

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 21...	.00	.18	.06	.27	.000	.00	.000	670	70	.1

413445081131300. Local number, GE-100.

LOCATION.--Lat 41°34'45", long 81°13'13", Hydrologic Unit 04110003, on Kirtland Road in Chardon.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in (0.15 m), depth 82 ft (25.0 m), cased.

DATUM.--Altitude of land-surface datum is 1,320 ft (402 m), from topographic map. Measuring point: Floor of instrument shelter 2.00 ft (0.61 m), above land-surface datum.

PERIOD OF RECORD.--May 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.82 ft (10.61 m) below land-surface datum, June 8, 1980; lowest, 39.24 ft (11.96 m) below land-surface datum, Sept. 27, 1980.

EXTREMES FOR CURRENT YEAR.--Highest water level, 34.82 ft (10.61 m) below land-surface datum, June 8, 1980; lowest, 39.24 ft (11.96 m) below land-surface datum, Sept. 27, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	37.15	38.08	38.65	38.09
2								---	37.83	38.13	38.58	38.21
3								---	37.61	38.11	38.37	38.33
4								---	37.86	38.10	38.46	38.26
5								---	37.84	38.10	38.13	38.21
6								37.06	37.52	38.27	38.70	38.19
7								37.23	37.49	37.77	38.69	38.17
8								37.31	36.60	38.08	38.40	38.20
9								37.40	36.75	38.17	38.31	38.65
10								37.41	---	38.08	38.20	38.00
11								37.43	---	38.07	37.76	38.73
12								37.50	---	38.09	37.98	38.08
13								37.31	37.99	38.31	38.30	38.62
14								37.36	37.66	38.36	38.26	38.76
15								37.60	37.57	38.23	38.46	38.89
16								37.65	37.87	38.23	38.63	38.95
17								37.54	37.98	38.37	38.64	38.95
18								36.71	37.86	38.51	38.39	39.07
19								36.83	37.78	38.52	38.50	39.16
20								37.19	37.93	38.56	38.15	38.96
21								37.76	38.02	38.56	38.20	38.91
22								37.66	38.02	38.46	38.36	38.37
23								37.60	38.01	38.60	38.22	39.12
24								37.23	37.90	38.67	38.20	39.12
25								37.00	38.04	38.64	38.11	38.70
26								37.17	37.99	38.60	38.10	39.19
27								37.26	38.05	38.55	38.09	39.24
28								37.19	38.02	38.43	38.14	39.21
29								37.15	37.95	38.50	38.12	39.19
30								37.09	38.05	38.62	38.11	38.88
31								37.12	---	38.65	38.07	---
MAX								37.76	38.05	38.67	38.70	39.24

WTR YR 1980 MEAN 38.11 HIGH 36.60 LOW 39.24

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

413532081161701. Local number, GE-81Q.
LOCATION.--Lat 41°35'32", long 81°16'17", Hydrologic Unit 04110003, on Kirtland Road near Chardon.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled commercial well, cased.
DATUM.--Altitude of land-surface datum is 1,270 ft (387 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 27...	0945	600	6.9	11.5	18	300	62	83	23	8.4	6

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 27...	.2	2.8	290	0	240	44	59	26	.2	13	390

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 27...	361	.53	.00	.01	.08	.13	.10	.17	.02	.00	.10

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 27...	.03	.13	.10	.44	.040	.12	.020	2900	120	.5

413544081060500. Local number, GE-105.
LOCATION.--Lat 41°35'44", long 81°06'05", Hydrologic Unit 04110002, on Kile Road near Hambden.
AQUIFER.--Shale of Mississippian Age.
WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 220 ft (30.0 m), cased to 84 ft (25.6 m).
DATUM.--Altitude of land-surface datum is 1,220 ft (372 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 20...	1900	1150	7.9	11.5	.70	29	0	7.1	2.7	240	94

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 20...	19	2.6	460	0	360	8.8	3.4	150	1.2	7.7	655

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 20...	631	.89	.01	.02	.69	.71	.83	.91	.00	.00	.69

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 20...	.00	.71	.70	3.1	.030	.09	.030	70	10	.1

413629081082800. Local number, GE-73.
LOCATION.--Lat 41°36'29", long 81°08'28", Hydrologic Unit 04110004, at Hambden.
AQUIFER.--Sandstone of Pennsylvanian Age.
WELL CHARACTERISTICS.--Drilled public well, depth 90 ft (27.4 m), cased.
DATUM.--Altitude of land-surface datum is 1,300 ft (396 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
18...	1745	580	6.9	12.0	1.4	310	66	78	27	5.1	3

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG											
18...	.1	1.5	310	0	240	59	69	3.2	.3	10	370

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG											
18...	339	.50	.15	.16	.00	.00	.00	.00	.05	.10	.05

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
18...	.00	.10	.20	.89	.000	.00	.000	350	10	.2

413630081030000. Local number GE-47Q.
LOCATION.--Lat 41°36'30", long 81°03'00", Hydrologic Unit 04110004, at Montville.
AQUIFER.--Shale of Mississippian Age.
WELL CHARACTERISTICS.--Drilled public well, depth 17 ft (5.2 m).
DATUM.--Altitude of land-surface datum is 1,190 ft (363 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE, WATER (DEG C)	TUR-BID-ITY (NTU)	HARD-NESS (MG/L AS CACO3)	HARD-NESS, NONCAR-BONATE (MG/L CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 26...	1600	510	7.1	12.0	4.4	270	73	73	22	7.2	5

DATE	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	ALKA-LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
AUG 26...	.2	1.6	310	0	200	31	40	4.3	.3	17	308

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
AUG 26...	286	.42	.03	.04	.07	.08	.08	.10	.06	.00	.13

DATE	NITRO-GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS NO3)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, TOTAL (MG/L AS PO4)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 26...	.08	.08	.16	.71	.020	.06	.010	80	80	.5

413659081165300. Local number, GE-79S.
LOCATION.--Lat 41°36'59", long 81°16'53", Hydrologic Unit 04110003, on Wisner Road near Kirtland.
AQUIFER.--Sandstone and shale of Mississippian Age.
WELL CHARACTERISTICS.--Ground-water spring.
DATUM.--Altitude of land-surface datum is 830 ft (253 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 19...	1930	650	7.1	10.5	.20	330	88	90	25	6.8	4

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 19...	.2	1.5	320	0	240	37	81	4.8	.2	11	407

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 19...	368	.55	.69	.70	.01	.02	.01	.03	.01	.00	.02

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 19...	.01	.02	.71	3.1	.000	.00	.000	40	0	.2

413755081101200. Local number, GE-103.
LOCATION.--Lat 41°37'55", long 81°10'12", Hydrologic Unit 04110004, on State Route 608, north of Hambden.
AQUIFER.--Sandstone of Mississippian Age.
WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 136 ft (41.5 m), cased to 133 ft (40.5 m).
DATUM.--Altitude of land-surface datum is 1,158 ft (353 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG											
21...	1400	550	7.2	12.5	6.0	240	0	55	26	27	19

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)
AUG											
21...	.8	3.0	370	303	33	29	1.4	.4	17	340	243

DATE	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG										
21...	.46	.01	.01	.35	.35	.42	.45	.03	.00	.38

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG										
21...	.12	.35	.39	1.7	.030	.09	.030	610	190	.2

414124081010100. Local number, GE-44.
LOCATION.--Lat 41°41'24", long 81°01'01", Hydrologic Unit 04110004, at Thompson and Sidley Roads near Thompson.
AQUIFER.--Sandstone of Mississippian Age.
WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in (0.15 m), depth 70 ft (21.3 m), cased to 45 ft (13.7 m).
DATUM.--Altitude of land-surface datum is 1,045 ft (319 m), from topographic map.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	TURBIDITY (NTU)	HARDNESS (MG/L AS CACO3)	HARDNESS, NONCARBONATE (MG/L CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT
AUG 20...	1000	510	8.1	11.5	1.5	4	0	1.0	.3	100	98

DATE	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	ALKALINITY (MG/L AS CACO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 20...	23	1.0	200	0	150	2.3	9.3	52	1.0	8.6	288

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 20...	264	.39	.00	.01	.26	.38	.31	.49	.16	.04	.42

DATE	NITROGEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS NO3)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS PO4)	PHOSPHORUS, DISSOLVED (MG/L AS P)	IRON, DISSOLVED (UG/L AS FE)	MANGANESE, DISSOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
AUG 20...	.00	.42	.42	1.9	.010	.03	.010	100	0	.4

GROUND-WATER LEVELS AT MISCELLANEOUS SITES

Site No.	Local No.	Location	Date	Water[1] level
412225081205200	GE-15	Lat 41°22'25" long 81°20'52"	Apr. 8, 1980	9.43
412218081205000	GE-16	Lat 41°22'18" long 81°20'50"	Apr. 8, 1980	6.62
412313081231500	GE-17	Lat 41°23'13" long 81°23'15"	Apr. 9, 1980	6.51
412512081221500	GE-18	Lat 41°25'12" long 81°22'15"	Apr. 9, 1980	25.84
412339081192500	GE-20	Lat 41°23'39" long 81°19'25"	Apr. 9, 1980	1.57
412346081192500	GE-21	Lat 41°23'46" long 81°19'25"	Apr. 9, 1980	25.85
412331081123000	GE-22	Lat 41°23'31" long 81°12'30"	Apr. 9, 1980	12.87
412309081202400	GE-23	Lat 41°23'09" long 81°20'24"	Apr. 8, 1980	11.00
412142081223600	GE-24	Lat 41°21'42" long 81°22'36"	Apr. 9, 1980	63.29
412250081112300	GE-27	Lat 41°22'50" long 81°11'23"	Apr. 9, 1980	15.02
412246081201600	GE-28	Lat 41°22'46" long 81°20'16"	Jan. 8, 1980	4.73
			Jan. 31, 1980	4.59
			Feb. 14, 1980	4.67
			Mar. 3, 1980	4.61
			Mar. 18, 1980	4.64
			Mar. 31, 1980	4.01
			Apr. 9, 1980	3.75
			Apr. 30, 1980	3.49
			May 15, 1980	3.83
			June 3, 1980	3.74
			June 16, 1980	3.84
			July 2, 1980	4.08
			July 31, 1980	4.49
			Aug. 13, 1980	4.64
			Sept. 17, 1980	4.95
412449081232700	GE-29	Lat 41°24'49" long 81°23'27"	Jan. 8, 1980	39.70
			Jan. 31, 1980	39.77
			Feb. 14, 1980	40.09
			Mar. 3, 1980	40.14
			Mar. 18, 1980	40.08
			Mar. 31, 1980	39.64
			Apr. 9, 1980	39.52
			Apr. 30, 1980	39.32
			May 15, 1980	39.54
			June 3, 1980	39.82
			June 16, 1980	39.78
			July 2, 1980	40.00
			July 31, 1980	40.65
			Aug. 13, 1980	40.63
			Sept. 17, 1980	40.68
412655081205600	GE-31	Lat 41°26'55" long 81°20'56"	Apr. 8, 1980	0.77
412803081210000	GE-32	Lat 41°28'03" long 81°21'00"	Apr. 8, 1980	0.19
413207081192000	GE-33	Lat 41°32'07" long 81°19'20"	Apr. 8, 1980	101.06
413100081195900	GE-34	Lat 41°31'00" long 81°19'59"	Jan. 31, 1980	3.56
			Feb. 14, 1980	3.79
			Mar. 3, 1980	3.42
			Mar. 18, 1980	3.03
			Mar. 31, 1980	2.56
			Apr. 8, 1980	2.46
			Apr. 30, 1980	3.00
			May 15, 1980	3.46
			June 3, 1980	3.74
			June 16, 1980	3.59
			July 2, 1980	4.33
			July 31, 1980	4.87
			Aug. 13, 1980	4.48
			Sept. 17, 1980	5.03
412439081183000	GE-36	Lat 41°24'39" long 81°18'30"	Apr. 9, 1980	65.79
413336081202000	GE-37	Lat 41°33'36" long 81°20'20"	Apr. 8, 1980	88.76
412440081201500	GE-38	Lat 41°24'40" long 81°20'15"	Apr. 8, 1980	27.23
412514081202200	GE-39	Lat 41°25'14" long 81°20'22"	Apr. 8, 1980	37.19
412425081162700	GE-40	Lat 41°24'25" long 81°16'27"	Apr. 9, 1980	15.31

[1] Depth of water level below land surface, in feet.

GROUND-WATER RECORDS FOR GEAUGA COUNTY PROJECT

GROUND-WATER LEVELS AT MISCELLANEOUS SITES--Continued

Site No.	Local No.	Location		Date	Water[1] level
412459081203000	GE-41	Lat 41°24'59"	long 81°20'30"	Apr. 8, 1980	37.39
412905081045500	GE-42	Lat 41°29'05"	long 81°04'55"	Apr. 10, 1980	38.82
414220081045500	GE-43	Lat 41°42'20"	long 81°04'55"	Apr. 11, 1980	8.38
414124081010100	GE-44	Lat 41°41'24"	long 81°01'01"	Apr. 11, 1980	0.38
414026081024400	GE-45	Lat 41°40'26"	long 81°02'44"	Jan. 9, 1980	38.98
				Jan. 31, 1980	39.39
				Feb. 14, 1980	40.03
				Mar. 3, 1980	39.89
				Mar. 18, 1980	39.51
				Mar. 31, 1980	38.52
				Apr. 11, 1980	38.36
				Apr. 30, 1980	38.28
				May 15, 1980	39.07
				June 3, 1980	39.77
				June 16, 1980	39.65
				July 2, 1980	40.65
				July 31, 1980	40.80
				Aug. 13, 1980	40.14
				Sept. 17, 1980	41.83
413640081030100	GE-46	Lat 41°36'40"	long 81°03'01"	Apr. 11, 1980	15.17
413627081025700	GE-47	Lat 41°36'27"	long 81°02'57"	Apr. 11, 1980	17.97
413202081015700	GE-48	Lat 41°32'02"	long 81°01'57"	Jan. 9, 1980	5.29
				Jan. 31, 1980	5.48
				Feb. 14, 1980	5.73
				Mar. 3, 1980	5.84
				Mar. 18, 1980	5.79
				Mar. 31, 1980	5.47
				Apr. 10, 1980	5.34
				Apr. 30, 1980	5.25
				May 15, 1980	5.48
				June 3, 1980	5.17
				June 16, 1980	5.00
				July 2, 1980	5.13
				July 31, 1980	5.07
				Aug. 13, 1980	4.61
				Sept. 17, 1980	4.58
412620081032400	GE-49	Lat 41°26'20"	long 81°03'24"	Aug. 10, 1980	13.60
413426081121900	GE-51	Lat 41°34'26"	long 81°12'19"	Apr. 10, 1980	20.30
413449081121600	GE-52	Lat 41°34'49"	long 81°12'16"	Jan. 7, 1980	35.60
				Jan. 8, 1980	36.02
				Jan. 31, 1980	36.13
				Feb. 14, 1980	36.30
				Mar. 3, 1980	36.00
				Mar. 18, 1980	36.16
				Mar. 31, 1980	35.44
				Apr. 9, 1980	35.40
				Apr. 30, 1980	35.68
				May 15, 1980	36.00
				June 3, 1980	35.84
				June 16, 1980	35.77
				July 2, 1980	36.04
				July 31, 1980	36.35
				Aug. 13, 1980	35.66
				Sept. 17, 1980	35.86
413346081122301	GE-53A	Lat 41°33'46"	long 81°12'23"	Apr. 10, 1980	30.89
413343081132800	GE-54	Lat 41°33'43"	long 81°13'28"	Apr. 10, 1980	31.53
413250081100900	GE-55	Lat 41°32'50"	long 81°10'09"	Apr. 10, 1980	0.03
413156081065600	GE-56	Lat 41°31'56"	long 81°06'56"	Apr. 10, 1980	24.46
412315081082900	GE-57	Lat 41°23'15"	long 81°08'29"	Jan. 8, 1980	90.75
				Jan. 31, 1980	88.77
				Feb. 14, 1980	90.63
				Mar. 3, 1980	90.44
				Mar. 18, 1980	90.44
				Mar. 31, 1980	90.24
				Apr. 10, 1980	89.86
				Apr. 30, 1980	89.72
				May 15, 1980	90.14
				June 3, 1980	90.38
				June 16, 1980	89.88
				July 2, 1980	89.95

---

[1] Depth of water level below land surface, in feet.

GROUND-WATER LEVELS AT MISCELLANEOUS SITES--Continued

Site No.	Local No.	Location		Date	Water[1] level
412051081165700	GE-60	Lat 41°20'51"	long 81°16'57"	Apr. 9, 1980	59.37
413243081215000	GE-61	Lat 41°32'43"	long 81°21'50"	Apr. 8, 1980	19.47
412857081172300	GE-62	Lat 41°28'57"	long 81°17'23"	Apr. 10, 1980	9.48
412645081182400	GE-66	Lat 41°26'45"	long 81°18'24"	Apr. 8, 1980	23.76
412522081092800	GE-67	Lat 41°25'22"	long 81°09'28"	Apr. 9, 1980	0.64
412949081104600	GE-68	Lat 41°29'49"	long 81°10'46"	Jan. 8, 1980	16.85
				Jan. 31, 1980	18.21
				Feb. 14, 1980	19.39
				Mar. 3, 1980	18.48
				Mar. 18, 1980	17.56
				Mar. 31, 1980	16.19
				Apr. 10, 1980	13.79
				Apr. 30, 1980	16.59
				May 15, 1980	18.56
				June 3, 1980	19.20
				June 16, 1980	19.40
				July 2, 1980	20.00
				July 31, 1980	20.33
				Aug. 13, 1980	18.70
				Sept.17, 1980	19.88
413151081125800	GE-69	Lat 41°31'51"	long 81°12'58"	Apr. 10, 1980	21.92
412801081091800	GE-71	Lat 41°28'01"	long 81°09'18"	Apr. 9, 1980	51.77
413433081075500	GE-72	Lat 41°34'33"	long 81°07'55"	Apr. 11, 1980	9.15
413629081082800	GE-73	Lat 41°36'29"	long 81°08'28"	Apr. 11, 1980	45.00
413809081040400	GE-74	Lat 41°38'09"	long 81°04'04"	Apr. 11, 1980	53.58
413857081051000	GE-75	Lat 41 38'57"	long 81°05'10"	Apr. 11, 1980	6.77
413138081152000	GE-76	Lat 41°31'38"	long 81°15'20"	Jan. 31, 1980	22.52
				Feb. 14, 1980	22.38
				Mar. 3, 1980	22.34
				Mar. 18, 1980	22.11
				Mar. 31, 1980	21.87
				Apr. 10, 1980	21.69
				Apr. 30, 1980	21.56
				May 15, 1980	21.69
				June 3, 1980	22.42
				June 16, 1980	21.46
				July 2, 1980	21.76
				July 31, 1980	21.96
				Aug. 13, 1980	21.94
				Sept.17, 1980	22.83
413028081221000	GE-77	Lat 41°30'28"	long 81°22'10"	Apr. 8, 1980	37.52
413656081153600	GE-80	Lat 41°36'56"	long 81°15'36"	Jan. 8, 1980	47.52
				Jan. 31, 1980	47.28
				Feb. 14, 1980	47.29
				Mar. 3, 1980	47.03
				Mar. 18, 1980	47.45
				Mar. 31, 1980	46.83
				Apr. 11, 1980	47.20
				Apr. 30, 1980	46.99
				May 15, 1980	47.31
				June 3, 1980	47.07
				June 16, 1980	47.15
				July 2, 1930	47.21
				July 31, 1980	47.16
				Aug. 13, 1980	47.39
				Sept.17, 1980	47.33

1/ Depth of water level below land surface, in feet.

GROUND-WATER LEVELS AT MISCELLANEOUS SITES--Continued

Site No.	Local No.	Location		Date	Water[1] level
413735081131200	GE-82	Lat 41°37'35"	long 81°13'12"	Apr. 11, 1980	65.05
412627081075400	GE-83	Lat 41°26'27"	long 81°07'54"	Apr. 10, 1980	29.85
412745081202400	GE-84	Lat 41°27'45"	long 81°20'24"	Jan. 8, 1980	57.92
				Jan. 31, 1980	57.70
				Mar. 3, 1980	57.52
				Mar. 18, 1980	57.47
				Mar. 31, 1980	57.42
				Apr. 8, 1980	57.37
				Apr. 30, 1980	57.26
				May 15, 1980	57.26
				June 3, 1980	57.33
				June 16, 1980	57.39
				July 2, 1980	57.52
				July 31, 1980	57.93
				Aug. 13, 1980	58.13
				Sept. 17, 1980	58.29
412716081125400	GE-85	Lat 41°27'16"	long 81°12'54"	Jan. 31, 1980	49.32
				Feb. 14, 1980	49.30
				Mar. 3, 1980	49.10
				Mar. 18, 1980	49.28
				Mar. 31, 1980	48.76
				Apr. 10, 1980	49.29
				Apr. 30, 1980	48.86
				May 15, 1980	49.04
				June 3, 1980	48.87
				June 16, 1980	48.95
				July 2, 1980	49.00
				July 31, 1980	49.07
				Aug. 13, 1980	48.89
				Sept. 17, 1980	49.16
412749081171500	GE-89	Lat 41°27'49"	long 81°17'15"	Apr. 10, 1980	82.99
412748081143900	GE-91	Lat 41°27'48"	long 81°14'39"	Apr. 10, 1980	40.84
412713081123200	GE-92	Lat 41°27'13"	long 81°12'32"	Apr. 10, 1980	33.34
412354081010400	GE-93	Lat 41°23'54"	long 81°01'04"	Apr. 10, 1980	10.60
412547081211500	GE-94	Lat 41°25'47"	long 81°21'15"	Apr. 8, 1980	11.38
412559081095200	GE-96	Lat 41°25'59"	long 81°09'52"	Apr. 7, 1980	12.53
412225081035600	GE-99	Lat 41°22'25"	long 81°03'56"	Apr. 10, 1980	30.73
413757081122300	GE-101	Lat 41°37'57"	long 81°12'23"	Mar. 7, 1980	21.69
413450081173000	GE-102	Lat 41°34'50"	long 81°17'30"	May 7, 1980	51.28
413755081101200	GE-103	Lat 41°37'55"	long 81°10'12"	May 7, 1980	79.44
413606081102100	GE-104	Lat 41°36'06"	long 81°10'21"	May 7, 1980	90.83
413544081060500	GE-105	Lat 41°35'44"	long 81°06'05"	May 7, 1980	33.22
413456081035600	GE-106	Lat 41°34'56"	long 81°03'56"	May 7, 1980	30.84
413249081173800	GE-107	Lat 41°32'49"	long 81°17'38"	May 8, 1980	59.97
413117081171900	GE-108	Lat 41°31'17"	long 81°17'19"	May 8, 1980	48.86
413005081130000	GE-109	Lat 41°30'05"	long 81°13'00"	May 8, 1980	73.08
413049081090900	GE-110	Lat 41°30'49"	long 81°09'09"	May 8, 1980	36.76
413346081064000	GE-111	Lat 41°33'46"	long 81°06'40"	May 8, 1980	22.90
413207081044400	GE-112	Lat 41°32'07"	long 81°04'44"	May 5, 1980	43.86
413633081051800	GE-113	Lat 41°36'33"	long 81°05'18"	May 8, 1980	18.68
412901081070200	GE-114	Lat 41°29'01"	long 81°07'02"	May 9, 1980	39.94
412737081063300	GE-115	Lat 41°27'37"	long 81°06'33"	May 9, 1980	23.10
412926081144300	GE-116	Lat 41°29'26"	long 81°14'43"	May 9, 1980	41.83
412600081145800	GE-117	Lat 41°26'00"	long 81°14'58"	May 9, 1980	15.33

[1] Depth of water level below land surface, in feet.

GROUND-WATER LEVELS AT MISCELLANEOUS SITES--Continued

Site No.	Local No.	Location		Date	Water[1] level
412915081045900	GE-118	Lat 41°29'15"	long 81°04'59"	Aug. 13, 1980 Sept. 17, 1980	21.84 22.50
412657081040500	GE-119	Lat 41°26'57"	long 81°04'05"	Aug. 20, 1980	7.96
413230081190200	GE-120	Lat 41°32'30"	long 81°19'02"	June 17, 1980	95.20
412746081202000	GE-121	Lat 41°27'46"	long 81°20'20"	June 17, 1980	69.10
412410081223900	GE-122	Lat 41°24'10"	long 81°22'39"	June 17, 1980	59.22
412703081181600	GE-123	Lat 41°27'03"	long 81°18'16"	June 17, 1980	98.75
413052081153100	GE-124	Lat 41°30'52"	long 81°15'31"	June 17, 1980	22.99
413100081105500	GE-125	Lat 41°31'00"	long 81°10'55"	June 17, 1980	84.27
412212081230100	GE-126	Lat 41°22'12"	long 81°23'01"	June 17, 1980	116.75
412638081031100	GE-127	Lat 41°26'38"	long 81°03'11"	June 17, 1980	158.30
413203081010800	GE-128	Lat 41°32'03"	long 81°01'08"	June 17, 1980	117.70
413821081060500	GE-129	Lat 41°38'21"	long 81°06'05"	June 17, 1980	70.25
413623081101000	GE-130	Lat 41°36'23"	long 81°10'10"	June 17, 1980	84.87

1/ Depth of water level below land surface, in feet.

CHEMICAL CHARACTERISTICS AND BIOLOGICAL INDICES OF SELECTED LAKES

The following table lists the lakes at which chemical and physical characteristics and biological indices were obtained during water year 1980. These lakes were sampled to evaluate current conditions and existing or potential problems, determine chemical and physical characteristics of inflow from major tributaries, and provide basic information for determining the necessity for more intensive studies where problems exist. The results are tabulated on the following pages.

410800083383800 - VAN BUREN LAKE ABOVE DAM AT SITE (L-1) NEAR VAN BUREN, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (IN)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HYDROGEN SULFIDE DISS. (MG/L AS H2S)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)
APR												
29...	1400	.0	540	8.5	15.5	--	12.0	131	--	--	--	--
29...	1405	2.0	539	8.4	12.0	13.0	12.0	126	.0	127	5	.9
29...	1410	4.0	538	8.2	11.5	--	11.4	107	.0	156	0	2.0
AUG												
11...	1400	.0	415	7.8	27.5	--	8.8	113	--	--	--	--
11...	1405	2.0	420	7.6	27.0	4.0	8.7	112	.0	162	0	6.5
11...	1410	3.5	420	7.5	26.9	--	8.8	111	.2	176	0	6.7

DATE	TIME	SAMPLING DEPTH (FT)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (JTU)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, (COLS. PER 100 ML)	SILICA, DISSOLVED (MG/L AS SIO2)
APR									
29...	1405	2.0	10	25	36	4.3	2	11	3.0
29...	1410	4.0	10	45	40	2.5	12	44	4.1
AUG									
11...	1405	2.0	100	115	38	2.7	20	30	3.0
11...	1410	3.5	100	150	45	3.7	10	50	3.2

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR									
29...	3.0	.05	3.0	.11	1.1	1.2	.080	.03	7.9
29...	2.8	.04	2.8	.09	.85	.94	.120	.03	5.9
AUG									
11...	.07	.03	.10	1.1	.50	1.6	.210	.08	9.0
11...	.08	.02	.10	1.2	1.1	2.3	.290	.08	12

410900083383800 - VAN BUREN LAKE ABOVE DAM AT SITE (L-1) NEAR VAN BUREN, OHIO.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	HARD-NESS (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)
APR 29...	1410	290	78	22	13	2.4	110	25	.3	403

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE)
APR 29...	79	482	<10	<50	60	0	20	0	7	1900

DATE	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
APR 29...	1	9	<.1	2	5	0	0	20	.08

PHYSICAL AND CHEMICAL DATA FOR SELECTED INFLOWS--VAN BUREN LAKE

410750083364600 - UNNAMED TRIBUTARY ABOVE VAN BUREN LAKE (I-2) NEAR VAN BUREN, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 29...	1540	1.0	640	8.7	13.5	15	3	17.5	2.2	.81	.130	5.8
AUG 11...	1515	.50	655	7.7	22.6	50	25	5.0	.05	.96	.070	6.7

410750083364500 - ROCKY FORD CREEK ABOVE VAN BUREN LAKE NEAR VAN BUREN, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
APR 29...	1520	3.0	680	8.3	11.3	10	10	14.0	1.0	.72	.050	5.9
AUG 11...	1500	2.0	765	7.7	22.2	50	60	5.2	.30	.65	.230	11

CHEMICAL CHARACTERISTICS AND BIOLOGICAL INDICES OF SELECTED LAKES--Continued

410005082124000 - FINDLEY LAKE ABOVE DAM (L-1) NEAR WELLINGTON, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	TRANS-PAR-ENCY (SECCHI DISK) (IN)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	HYDRO-GEN SULFIDE DISS. (MG/L AS H2S)	BICAR-BONATE (MG/L AS HCO3)	CAR-BONATE (MG/L AS CO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)
JUN												
03...	1030	.0	361	7.8	22.5	--	7.6	89	--	--	--	--
03...	1035	2.0	364	7.9	22.4	132	7.6	89	.0	116	0	2.3
03...	1040	4.0	365	7.8	22.5	--	7.6	89	--	--	--	--
03...	1045	7.0	365	7.9	22.1	--	7.6	88	--	--	--	--
03...	1050	10	361	7.8	21.4	--	7.7	89	--	--	--	--
03...	1055	12	350	8.1	17.5	--	9.8	105	--	--	--	--
03...	1100	15	325	6.8	13.1	--	.7	7	--	--	--	--
03...	1105	20	331	6.8	10.0	--	.4	4	.0	26	0	5.2
03...	1110	22	330	6.8	9.5	--	.4	4	--	--	--	--
AUG												
12...	1130	.0	288	9.3	26.4	--	10.4	132	--	--	--	--
12...	1135	2.0	288	9.3	26.4	58.0	10.4	132	.0	52	12	71
12...	1140	4.0	285	9.3	26.4	--	10.0	127	--	--	--	--
12...	1145	7.0	285	9.0	26.5	--	9.8	126	--	--	--	--
12...	1150	10	305	7.3	24.4	--	4.9	60	--	--	--	--
12...	1155	15	331	6.7	19.1	--	.6	7	--	--	--	--
12...	1200	20	384	6.4	13.4	--	.3	3	7.0	260	0	164

DATE	TIME	SAMP-LING DEPTH (FT)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN DEMAND, CHEM-ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI-FORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREP-TOCOCCI FECAL, (COLS. PER 100 ML)	SILICA, DIS-SOLVED (MG/L AS SIO2)
JUN									
03...	1035	2.0	10	1	22	1.3	12	8	2.7
03...	1105	20	30	3	37	3.7	8	4	6.4
AUG									
12...	1135	2.0	15	2	34	2.6	10	70	2.1
12...	1200	20	100	40	90	6.7	30	60	12

DATE	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN									
03...	.35	.01	.36	.11	.33	.44	.070	.01	5.8
03...	.02	.00	.02	1.1	.90	2.0	.030	.02	5.2
AUG									
12...	.00	.01	.01	.03	.54	.57	.030	.00	9.1
12...	.00	.01	.00	4.4	.60	5.0	.470	.26	23

410805082124000 - FINDLEY LAKE ABOVE DAM (L-1) NEAR WELLINGTON, OHIO--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
JUN										
03...	1105	170	42	15	11	3.3	96	12	.2	254

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
JUN										
03...	13	267	<10	<50	60	0	20	0	2	120

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
JUN									
03...	0	180	<.1	2	2	0	0	10	<.05

PHYSICAL AND CHEMICAL DATA FOR SELECTED INFLOW--FINDLAY LAKE

410719082124200 - WELLINGTON CREEK ABOVE FINDLAY LAKE NEAR WELLINGTON, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (JTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN												
03...	0930	8.0	561	7.5	18.9	45	7	7.7	9.7	1.1	.180	9.3
AUG												
12...	1045	5.0	556	7.5	20.7	25	35	6.4	.18	.54	.070	9.4

CHEMICAL CHARACTERISTICS AND BIOLOGICAL INDICES OF SELECTED LAKES--Continued

411205081271300 - MEADOWBROOK LAKE ABOVE DAM (L-1) NEAR STOW, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)	TRANSPARENCY (SECCHI DISK) (IN)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	HYDROGEN SULFIDE DISS. (MG/L AS H2S)	BICARBONATE (MG/L AS HCO3)	CARBONATE (MG/L AS CO3)	CARBON DIOXIDE DISSOLVED (MG/L AS CO2)
JUN												
02...	1445	.0	501	8.2	22.5	--	9.6	114	--	--	--	--
02...	1450	2.0	501	8.2	21.8	48.0	9.6	113	.0	100	0	1.0
02...	1455	4.0	541	7.7	20.0	--	8.9	101	--	--	--	--
02...	1500	7.0	525	7.1	16.0	--	.5	5	--	--	--	--
02...	1505	9.0	621	7.0	12.9	--	.3	3	1.4	25	0	4.0
AUG												
29...	1100	.0	368	8.5	25.1	--	13.0	163	--	--	--	--
29...	1105	2.0	368	8.3	25.1	47.0	13.0	163	.0	132	2	1.1
29...	1110	4.0	440	7.2	21.8	--	7.4	87	--	--	--	--
29...	1115	7.0	471	7.1	20.4	--	1.2	14	--	--	--	--
29...	1120	9.0	534	7.1	18.8	--	.4	4	1.5	248	0	31

DATE	TIME	SAMPLING DEPTH (FT)	COLOR (PLATINUM COBALT UNITS)	TURBIDITY (JTU)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLIFORM, FECAL, 0.45 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, (COLS. PER 100 ML)	SILICA, DISSOLVED (MG/L AS SIO2)
JUN									
02...	1450	2.0	5	1	24	3.2	320	64	6.0
02...	1505	9.0	40	2	54	8.0	100	48	13
AUG									
29...	1105	2.0	20	1	29	4.1	40	40	5.7
29...	1120	9.0	60	25	34	3.7	300	140	19

DATE	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN									
02...	.03	.00	.03	.21	.66	.87	.110	.05	9.7
02...	--	--	--	--	--	--	.160	--	7.3
AUG									
29...	.00	.00	.00	.04	.86	.90	.130	.02	7.9
29...	.00	.01	.01	3.0	.70	3.7	.410	.23	11

DATE	TIME	HARDNESS (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	POTASSIUM, DISSOLVED (MG/L AS K)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
JUN										
02...	1505	210	59	16	29	2.1	58	45	.2	361

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUSPENDED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BORON, TOTAL RECOVERABLE (UG/L AS B)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
JUN										
02...	1	362	<10	<50	80	0	10	0	2	820

DATE	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
JUN									
02...	2	1500	<.1	2	3	0	0	10	.06

PHYSICAL AND CHEMICAL DATA FOR SELECTED INFLOW--MEADOWBROOK LAKE

411200081262800 - POWERS BROOK ABOVE MEADOWBROOK LAKE (I-1) NEAR STOW, OHIO

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)	COLOR (PLAT-INUM COBALT UNITS)	TUR-BID-ITY (JTU)	OXYGEN, DIS-SOLVED (MG/L)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
JUN 02...	1600	15	414	7.5	19.8	100	90	7.4	.60	.61	.230	6.3
AUG 29...	1015	1.5	648	7.7	18.6	10	2	9.0	.41	.56	.040	2.7

Index

Page

Accuracy of field data and computed results 10
Acre-foot, definition of 2
Allentown, Ottawa River at 23
Amherst, Beaver Creek at 191
Antwerp, Maumee River at 19
Aquifer, definition of 2
Artesian, definition of 2
Ash mass, definition of 3
Ashtabula, Hubbard Run tributary at 195
Ashtabula River, at Ashtabula 174
Auglaize River, near Defiance 35
  near Fort Jennings 22
  tributary near Spencerville 193
  near Uniopolis 183

Bacteria, definition of 2
Bay Village, Glen Park Creek at 194
Bean Creek at Powers 20
  tributary near Fayette 193
Beaver Creek, at Amherst 191
  near Stryker 181
  tributary near Montpelier 193
Beetree Run near Junction 194
Bed material, definition of 3
Bedford, Tinkers Creek at 130
Berea, East Branch Rocky River near 192
  Rocky River near 116
Bettsville, East Branch Wolf Creek near 68
  Wolf Creek at 67
Big Creek at Cleveland 144
Biochemical oxygen demand, definition of 3
Biomass, definition of 3
Black Creek near Rockford 181
Black River, at Elyria 104
  below Elyria 107
Blanchard River near Findlay 29
Bottom material (See bed material) 3
Broken Sword Creek near Nevada 61
Brunersburg, Lick Creek near 182
  Mud Creek near 182
Bucyrus, Sandusky River near 60

Cairo, Rattlesnake Creek near 194
Cedar Creek at Curtice 186
Cells/volume, definition of 3
Chagrin River at Willoughby 153
Chemical characteristics and biological
    indices of selected lakes 250
Chemical oxygen demand, definition of 3
Chlorophyll, definition of 3
Cleveland, Big Creek at 144
  Cuyahoga River at Lower Harvard Bridge in 145
  Cuyahoga River at West Third Street Bridge in 146
Cleveland Heights, Dugway Brook at 195
Collection and computation of data 8
Collection and examination of data 10
Collection of the data 12
Conneaut, Conneaut Creek at 177
Contents, definition of 3
Control, definition of 3
Control structure, definition of 3
Cooperation 1
Crane Creek near Curtice 186
Crawford, Tymochtee Creek at 63
Crest-stage partial record stations 193
Cubic feet per second per square mile,
    definition of 3
Cubic feet per second per day, definition of 3
Cubic foot per second, definition of 3
Curtice, Cedar Creek at 186
  Crane Creek near 186
Cuyahoga River, at Hiram Rapids 121
  at Independence ...(NASQAN) 132
  at Lower Harvard Bridge, Cleveland 145
  at Old Portage 122
  at West Third Street Bridge, Cleveland 146

Defiance, Auglaize River near 35
  Maumee River near 36
  Powell Creek near 185
Definition of terms 2
Discharge, definition of 3
Discharge measurements made at low-flow partial-
    record stations during water years 1978-79,
    not previously published 192
Dissolved, definition of 3
Downstream order and station number 7
Drainage area, definition of 4
Drainage basin, definition of 4
Dugway Brook at Cleveland Heights 195

Page

East Branch Black River near Lagrange 196
East Branch Rocky River near Berea 192
Elyria, Black River at 104
  Black River below 107
  West Branch Black River above Lake Street at 101
Euclid Creek near Euclid 151
  tributary near Lynhurst 195
Explanation, of ground-water level records 12
  of stage and water-discharge records 8
  of water-quality records 10

Factors for converting inch-pound units to
    International System (SI) units .... Inside back cover
Fayette, Spring Creek at 193
  Bean Creek tributary near 193
Fecal-coliform bacteria, definition of 3
Fecal-streptococcal bacteria, definition of 3
Figure 1 7
Figure 2 14-17
Findlay, Blanchard River near 29
Findlay Lake 252
Fort Jennings, Auglaize River near 22
Fremont, Muskellunge Creek near 190
  Sandusky River below 76
  Sandusky River near 69

Gage height, definition of 4
Gaging station, definition of 4
Gaging stations, in downstream order, for which
    records are published VI
Geauga County, Ground-water records for 217
Glen Park Creek at Bay Village 194
Grand River, at Painesville ...(NASQAN) ....
  near Painesville 158
Grassy Creek at Perrysburg 194
Ground-water records 197
Ground-water records for Geauga County project 217

Hardness, definition of 4
Harrod, King Run near 193
Hicksville, Middle Fork Gordon Creek tributary at 193
Hill Ditch near Richards 193
Hiram Rapids, Cuyahoga River at 121
Honey Creek at Melmore 66
  near New Washington 65
Hubbard Run tributary at Ashtabula 195
Huron River, at Milan 83
Hydrologic bench-mark stations, definition of 8
Hydrologic conditions 2
Hydrologic unit, definition of 4

Independence, Cuyahoga River at 132
  Ohio Canal at 131
Instantaneous discharge, explanation of 3
Introduction 1

Junction, Beetree Run near 194

Ketcham Ditch at Rowland Road at Toledo 193
King Run near Harrod 193

Lagrange, East Branch Black River near 196
Lakes, chemical characteristics and biological
    indices of selected 250
Lakewood, Rocky River above sewage treatment
    plant near 120
Leesville, Paramour Creek near 187
Liberty Center, North Turkeyfoot Creek near 185
Lick Creek near Brunersburg 182
Lima, Pike Run at 194
  Ottawa River at D.T.& I. Railway Bridge at 183
Lindsey, Muddy Creek at 187
List of gaging stations, in downstream order, for
    which records are published VI
List of ground water stations, for which
    records are published VII
Litchfield, Neff Run near 194
Little Auglaize River tributary at Ottoville 194
Little Sandusky River at Little Sandusky 188
Little Tymochtee Creek near Marseilles 189
Lyndhurst, Euclid Creek tributary at 195

Mall Run at Richmond Heights 195
Marseilles, Little Tymochtee Creek near 189
Maumee River, at Antwerp 19
  at Waterville 46
  near Defiance 36
  near Waterville 37
McCutchenville, Sandusky River near 189
Meadowbrook Lake 254

Page
Mean concentration, definition of 6
Mean discharge, definition of 3
Melmore, Honey Creek at 66
Melrose, Middle Creek at 184
  Prairie Creek near 184
Methylene blue active substance, definition of 4
Mexico, Sandusky River near 64
  Sycamore Creek at 190
Micrograms per gram, definition of 4
Micrograms per kilogram, definition of 4
Micrograms per liter, definition of 4
Middle Creek near Melrose 184
Middle Fork Gordon Creek tributary at Hicksville 193
Milan, Huron River at 83
Milligrams per liter, definition of 4
Montpelier, Beaver Creek tributary near 193
Mud Creek near Brunersburg 182
Muddy Creek at Lindsey 187
Muskellunge Creek near Fremont 190

National Geodetic Vertical Datum of 1929 4
National stream-quality accounting network,
    explanation of 8
Neff Run near Litchfield 194
Nevada, Broken Sword Creek near 61
New Washington, Honey Creek near 65
North Fork Doan Brook at Shaker Heights 194
North Robinson, Sandusky River near 188
North Turkeyfoot Creek near Liberty Center 185
Norwalk Creek near Norwalk 194
Numbering system for wells and miscellaneous sites 7

Oberlin, West Branch Black River near 196
Ohio Canal at Independence 131
Old Portage, Cuyahoga River at 122
Organism, definition of 4
  count/area, definition of 4
  county/volume, definition of 4
Other data available 10
Ottawa River (tributary to Auglaize River)
    at Allentown 23
  at D.T.& I. Railway Bridge, Lima 183
  (tributary to Lake Erie) at Toledo
    University, Toledo 18
Ottoville, Little Auglaize River tributary at 194

Painesville, Grand River at ... (NASQAN) 162
  Grand River near 158
Paramour Creek near Leesville 187
Partial-record station, definition of 4
  and miscellaneous sites 180
Particle size, definition of 4
Particle size classification, definition of 5
Percent composition, definition of 5
Periphyton, definition of 5
Perrysburg, Grassy Creek at 194
Pesticides, definition of 5
Pesticides program 8
Phytoplankton, definition of 5
Picocurie, definition of 5
Pickerel Creek near Vickery 191
Pike Run at Lima 194
Plankton, definition of 5
Portage River, at railroad bridge at Woodville 53
  at Woodville 52
Powell Creek near Defiance 185
Powers, Bean Creek at 20
Prairie Creek near Melrose 184
Preface III
Publications on techniques of water-resources
    investigations 13

Rattlesnake Creek near Cairo 194
Records of discharge collected by agencies other
    than the Geological Survey 10
Recoverable from bottom material, definition of 5
Reitz Run at Waterville 194
Richmond Heights, Mall Run at 195
Richards, Hill Ditch near 193
Rockford, Black Creek near 181
Rocky River, above sewage treatment plant
    near Lakewood 120
  near Berea 116
Runoff in inches, definition of 5

Page
Sandusky River, below Fremont 76
  near Bucyrus 60
  near Fremont 69
  near McCutchenville 189
  near Mexico 64
  near North Robinson 188
  near Upper Sandusky 62
Sediment 11
Sediment, definition of 5
Sediment partial record stations 196
Shaker Heights, North Fork Doan Brook at 194
Silver Creek on Jackman Road at Toledo 193
Solute, definition of 6
Special networks and programs 8
Specific conductance, definition of 6
Spencerville, Auglaize River tributary near 193
Spring Creek at Fayette 193
Stage-discharge relation, definition of 6
St. Marys River at St. Marys 180
Streamflow, definition of 6
Stryker, Beaver Creek near 181
  Tiffin River at 21
Suspended, definition of 6
Suspended, recoverable, definition of 6
Suspended sediment, definition of 5
Suspended-sediment concentration, definition of 5
Suspended-sediment discharge, definition of 5
Suspended-sediment load, definition of 5
Suspended, total, definition of 6
Sycamore Creek at Mexico 190

Terms, definition of 2
Tiffin River, at Stryker 21
Tifft Ditch on Foxglove Road at Toledo 193
Time-weighted average, definition of 6
Tinkers Creek, at Bedford 130
  tributary at Twinsburg 194
Toledo, Ketcham Ditch at Rowland Road at 193
  Ottawa River at Toledo University 18
  Silver Creek on Jackman Road at 193
  Tifft Ditch on Foxglove Road at 193
Tons per day, definition of 6
Total, definition of 6
Total coliform bacteria, definition of 2
Total in bottom material, definition of 6
Total load, definition of 7
Total organism count, definition of 4
Total recoverable, definition of 7
Total sediment discharge, definition of 6
Twinsburg, Tinkers Creek tributary at 194
Tymochtee Creek at Crawford 63

Uniopolis, Auglaize River near 183
Upper Sandusky, Sandusky River near 62

Valley City, West Branch Rocky River near 115
Van Buren Lake 250
Vermilion River near Vermilion 93
Vickery, Pickerel Creek near 191

Water analysis 11
Water temperature 11
Waterville, Maumee River at 46
  Maumee River near 37
  Reitz Run at 194
WDR, definition of 7
West Branch Black River, above Lake Street at Elyria 101
  near Oberlin 196
West Branch Rocky River near Valley City 115
Willoughby, Chagrin River at 153
Wolf Creek, at Bettsville 67
  East Branch, near Bettsville 68
Woodville, Portage River at 52
  Portage River at railroad bridge at 53
WRD, definition of 7
WSP, definition of 7

☆ U.S. GOVERNMENT PRINTING OFFICE 1981-758-813

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	$2.54\text{x}10^{1}$	millimeters (mm)
	$2.54\text{x}10^{-2}$	meters (m)
feet (ft)	$3.048\text{x}10^{-1}$	meters (m)
miles (mi)	$1.609\text{x}10^{0}$	kilometers (km)
	Area	
acres	$4.047\text{x}10^{3}$	square meters (m^2)
	$4.047\text{x}10^{-1}$	square hectometers (hm^2)
	$4.047\text{x}10^{-3}$	square kilometers (km^2)
square miles (mi^2)	$2.590\text{x}10^{0}$	square kilometers (km^2)
	Volume	
gallons (gal)	$3.785\text{x}10^{0}$	liters (L)
	$3.785\text{x}10^{0}$	cubic decimeters (dm^3)
	$3.785\text{x}10^{-3}$	cubic meters (m^3)
million gallons	$3.785\text{x}10^{3}$	cubic meters (m^3)
	$3.785\text{x}10^{-3}$	cubic hectometers (hm^3)
cubic feet (ft^3)	$2.832\text{x}10^{1}$	cubic decimeters (dm^3)
	$2.832\text{x}10^{-2}$	cubic meters (m^3)
cfs-days	$2.447\text{x}10^{3}$	cubic meters (m^3)
	$2.447\text{x}10^{-3}$	cubic hectometers (hm^3)
acre-feet (acre-ft)	$1.233\text{x}10^{3}$	cubic meters (m^3)
	$1.233\text{x}10^{-3}$	cubic hectometers (hm^3)
	$1.233\text{x}10^{-6}$	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	$2.832\text{x}10^{1}$	liters per second (L/s)
	$2.832\text{x}10^{1}$	cubic decimeters per second (dm^3/s)
	$2.832\text{x}10^{-2}$	cubic meters per second (m^3/s)
gallons per minute (gal/min)	$6.309\text{x}10^{-2}$	liters per second (L/s)
	$6.309\text{x}10^{-2}$	cubic decimeters per second (dm^3/s)
	$6.309\text{x}10^{-5}$	cubic meters per second (m^3/s)
million gallons per day	$4.381\text{x}10^{1}$	cubic decimeters per second (dm^3/s)
	$4.381\text{x}10^{-2}$	cubic meters per second (m^3/s)
	Mass	
tons (short)	$9.072\text{x}10^{-1}$	megagrams (Mg) or metric tons